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the Airman

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THE AIRMAN is primarily a medium for the exchange of ideas and information among Air Force personnel. Readers are encouraged to submit articles, short subjects, photographs and artwork. All contributions will be given consideration; suggestions and criticisms are welcomed. Opinions expressed by individual contributors do not necessarily reflect the official viewpoint of the Department of the Air Force. All photographs are official USAF photos unless otherwise designated.

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DEPARTMENT OF THE AIR FORCE
WASHINGTON

OFFICE OF THE SECRETARY

The mission of the United States Air Force is to advance the cause of peace through its deterrent/retaliatory power.

THE AIRMAN is published to support that mission by regularly bringing to its readers information which will be valuable and interesting to them as airmen in the United States Air Force, or which -- in the case of those readers who do not wear the Air Force uniform -- will enhance their understanding of airpower and their knowledge of its uses and values in peace and war.

The Air Force, as the principal exponent of the nation's airpower, must be organized and operated on a global scale. In the interest of our welfare, and the welfare of our allies and other friends, the airmen of the United States Air Force, in discharging their individual responsibilities in this great task, must work in many places, at many different kinds of jobs, and under many different conditions. But although they may be separated by the expanses of oceans and continents, although their duties may vary greatly, although they may look to different headquarters and deal with different problems, they are one, an entity in the sense that the efforts of each of them support the common mission of the Air Force in furtherance of our Government's objective of a just and lasting peace. Accordingly, it is desirable for airmen everywhere to receive the same Air Force information at the same time. THE AIRMAN is designed to perform that important function.

As to methods and content, the journal -- of which this is the initial issue -- will speak for itself. As to the future, it is the hope of all associated with THE AIRMAN that it will prove valuable to you, that as time passes and with the help of your suggestions, it will improve constantly, and that through these joint efforts the effectiveness of our airpower and the security of our country will be served.

James H. Douglas
Secretary

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DEPARTMENT OF THE AIR FORCE
OFFICE OF THE CHIEF OF STAFF
UNITED STATES AIR FORCE
WASHINGTON, D. C.

One of the best ways to gain knowledge necessary to succeed in the Air Force is through the free exchange of ideas and information. Before the jet-atomic-missile age when our smaller Air Force occupied a few bases, this was a comparatively easy task. But now we are spread around the world. Our equipment consists of some of the most highly technical items in existence. Our weapons are even more efficient and effective. The task of keeping informed is more important today but more difficult.

THE AIRMAN is established as a means to provide you with information.

Not only will THE AIRMAN help keep you informed, but will also provide you with a means of informing us. I encourage you to use THE AIRMAN as a source of information and as a way to bring your ideas to our attention.

Thomas D. White

THOMAS D. WHITE
Chief of Staff, United States Air Force

YOU AND THE AIR FORCE TODAY

by General Thomas D. White
Chief of Staff, USAF

TODAY, the air/nuclear counterpunch of the United States Air Force is the keystone of our national progress and security. To millions of Americans our global airpower literally spells the difference between freedom and Communist enslavement, between survival and destruction.

These are not overstatements. These are facts; and to understand the basis for these facts, we in the Air Force should examine periodically certain vital aspects of our *growth*, our *present status*, and the *direction of our progress*.

To me it seems especially fitting to promote a common view of these matters by presenting them in this first issue of THE AIRMAN, and during the Golden Anniversary Year of the Air Force. I am personally gratified that the opportunity to do this coincides with the beginning of my tour as your Chief of Staff.

Growth

Nowhere in history can we find an example of institutional growth that even remotely parallels that of the Air Force. In tracing its phenomenal expansion from a modest origin to its present magnitude, we can refer to an overwhelming mass of facts and figures.

From these sources we learn the details of historic flights and air victories. We learn that the Air Force has dollar assets exceeding the combined worth of our 24 largest corporations; that our supply and distribution system handles one and a quarter million different items—far more than our largest mail order firm. We learn that with these and other resources, the Air Force keeps about a thousand planes—bombers, fighters, transports and trainers—in the air around the clock. These and many other airpower facts are useful and impressive gauges of our size and achievements.

However, as members of the Air Force, you and I have some questions about it that go deeper than its statistical aspects. Among other things we want to know: What are the basic elements of its strength and growth? What are its lasting values? What opportunities, rewards and challenges does it offer the individual?

To understand airpower today we have to consider these two elements —men and machines—always in their correct relationship to each other.

On the material side of airpower there are the air weapons and their associated equipment and facilities. These are new as we reckon developments in military history. They are complex and powerful almost beyond imagination.

On the human side, there is a source of strength that is even more vital and basic. Here we find the pioneer airmen who had the vision, courage, and hardheaded, practical ability to see the potential of airpower, to develop that potential and to bring it to the service of free people.

In essence, what these pioneer airmen understood about airpower was its ability to achieve decisive results in many different ways and within a surprisingly brief interval of time. They understood that airpower was the only instrument of military force that could be applied directly against all the sources of an enemy's strength. It could wreck his economy, sink his ships and destroy his troops. It stopped at no boundaries, and at no ocean or mountain barriers.

They recognized that in air warfare there can be no stalemate. Once the superior air force has won control of the skies, it is free to operate against an enemy's vital target sys-

"To understand airpower today we have to consider two elements—men and machines—always in their correct relationship to each other."

tems until a decision has been reached.

These articles of faith concerning the capabilities of airpower are even today sometimes labelled as new and revolutionary discoveries. Providentially—to early air leaders—they were items of deepest conviction a generation ago. It remained only for technical improvements and world events to force general recognition of airpower's dominance as an instrument for preventing a war or winning one. This recognition now provides a realistic basis for our national strategy.

Peace Power

In recent years there has been a wider recognition of airpower's growing importance at the conference table as well as in combat. The shadow of the long range, nuclear bomber is a point of realistic concern in all diplomatic assemblies. It signifies that military power—swift, far reaching and massive—is constantly poised as a backup for our national policy.

There are a number of important events which highlight this fact. They show how superior airpower—without even being triggered into action—can bring about results which are desirable, or prevent developments that are undesirable.

A case in point is the Berlin Airlift. During that operation, the Russians avoided any direct interference with our transport activities; and they did so out of a healthy respect for our long-range air/nuclear striking force. They decided it would be better to abandon their original objective of a total blockade of the city, than to provoke all-out retaliation.

This was a clear case of how a potential enemy's recognition of U. S. airpower can influence him to behave with some measure of restraint, thus creating a climate in which more limited instruments of power can operate successfully.

A similar situation can be identified in the Korean conflict. There the Chinese Communists had strong fighter elements just north of the Yalu River boundary between North Korea and China. However, they never directly challenged our control of the air over the front. Why not? Because they feared the prospect of U.S. retaliation with air/atomic strikes against Manchuria.

In Western Europe we have observed the extent to which U. S. air/atomic power can paralyze the Communist initiative that would normally stem from the 175 Red divisions deployed along the frontiers of the Iron Curtain.

In the recent Middle East crisis we have observed an element of Soviet caution that must also be credited largely to U. S. strategic airpower.

Looked at in this way, the Air Force's key position in our defense structure clearly centers on its capacity for preventing war by being able to fight through to a decision.

This capacity has earned much public interest and support. It is even more significant to those of us who are in the Air Force. First of all it provides a valid basis for pride and satisfaction at being identified with a service that is distinguished for its record of victory and for its growth in importance to the security of our nation. Of more practical significance is the fact that we discover, through this look at our past, a number of meaningful guidelines for our present and future actions.

Guidelines for Action

Broadly speaking, the magnitude of our present Air Force program reflects the size and the nature of the job we have to do. To estimate that job there are three basic factors we have to consider—who the potential enemy is, what his intentions are and what he can do to carry them out.

We know that militant communism—in whatever form it appears around the world—is centrally directed and controlled by the political leaders of the Soviet.

We know those leaders would destroy us if they could in order to speed up the extension of their tyranny throughout the world. And finally, we know that in pursuit of this objective they have at their dis-

posal the means of aggressive action ranging from all-out air/nuclear warfare to so-called limited or proxy wars anywhere around the vast periphery of the Iron Curtain.

We know those striking forces are being expanded and improved as rapidly as possible. This is being accomplished by a ruthless concentration of resources and manpower on development and production of aircraft, missiles and nuclear weapons. The Soviet leaders have absolute authority to assign priorities. So long as it serves their interests, they can ignore the needs of the Russian people, and thus avoid the process of balancing their military programs against cost.

These are the considerations that dictate the magnitude and pace of our programs to increase the striking power and readiness of our air elements for retaliation and defense.

We have naturally and correctly come to describe these combat elements as deterrent forces, because they deny a potential enemy the opportunity to use military power as a practical means of getting what he wants. However, we should not forget for a moment what it is that makes the Air Force effective in this deterrent role. It is—first, last and always—the ability to fight if necessary, and to gain a favorable military decision in combat.

Effective deterrence is achieved when the aggressor knows that we have such power, and that we will use it if we must.

These factors clearly show that increases in the power of our combat air elements do not—by themselves—enable us to judge the soundness of our deterrent position. A true measure of that position must be based on a comparison of our own gains with improvements in the Soviet forces.

To appreciate the degree in which this principle applies, we need only recall the clear cut and comfortable margin of superiority we once held over the Soviet by virtue of two advantages—atomic monopoly and exclusive possession of intercontinental bombers. In an absolute sense our total power then was only a small fraction of what it is today; but considering the fast growing air/nuclear capability which the Soviet now has, we must acknowledge that our relative strength has been seriously reduced.

Professional quality maintenance is essential to keep our aircraft ready for any alert and to consistently provide aircrews with mechanically safe planes to fly.

Admittedly, there can be no conclusive answer to this question, short of a shooting war. However, this much is clear—from the facts now at hand—that improvement in the dispersal and protection of our strategic bomber forces must continue.

In fact, taking into account the reduction of our technological lead, it seems that one of our remaining propects for holding any significant margin of superiority over the Soviet is to exploit the advantage of our favorable base system and pattern of deployment. In this regard our overseas bases are supremely important and will remain so for a long time. They strengthen the morale of NATO countries and they are essential to the effectiveness of our mutual defense arrangements in dealing with aggression on any scale. Confronting the Soviet as they do with the possibility of retaliation from all directions, they create an immensely complicated air defense problem. By comparison, our own problem of guarding against air attacks that would follow a polar route seems far more manageable.

Clearly, the effectiveness of our warning system and of the planes and missiles of the Continental Air Defense Command must be steadily increased. Only through these steps can we remain certain that our retaliatory forces have the ability to survive a surprise attack in sufficient strength to strike back instantly and decisively.

Greater Capabilities

In the face of these exacting requirements, I can report first, that we have achieved major gains in our combat capability in recent months; and second, that we have—in relation to the Soviet at this time—a margin of air superiority.

However, there are several areas where additional progress is needed,

as a look at this year's programs will disclose.

The first aspect to be examined in our coming activities is the downward revision of our force structure from 137 wings to 128 wings by July of 1958.

This action has provoked a grave concern as to its effect on our overall combat capability—a reaction that is understandable in spite of solid evidence that technical advances will more than offset the cut in numbers of wings.

It is naturally difficult to accept the proposition that you can get stronger by getting smaller—that is, unless there is a radical improvement in the qualitative elements of your resources. That is precisely what the Air Force has experienced. Since the 137-wing force structure was set in 1953, we have achieved an almost unbelievable margin of improvement over the power and performance of weapons that were then in operation.

Here are just some of the areas where recent and significant gains have been made:

Our stockpiles of nuclear weapons have increased; and these weapons are lighter, more powerful, and more diversified.

The new bombers, the Century Series fighters, and the guided missiles that are coming into operation —all of these are vastly improved delivery systems over anything that was available four or five years ago.

Certainly they should be, considering what the Air Force has put into them in research, in engineering effort, in materials and money. For example, an F-100 prototype required 4,040,000 engineering manhours as against 154,000 for the F-51. To complete the design of the B-47 we kept a test model in the wind tunnel for more than 19,000 hours—about 76 times longer than the 250 hours of research needed to design a typical World War II bomber. The $8,000 cost for nine electronic systems of the B-29 has skyrocketed to $219,000 for the 14 electronic systems on the B-47. We are spending each year on the maintenance of our electronic equipment in the Air Force more than twice its original price.

A/1C Catherine Joyce prepares to release weather balloon at Andrews AFB, Md. Of 43 airman career fields in today's Air Force, 32 are open to women.

What makes these cost increases tolerable is the fact that we are receiving a more-than-commensurate boost in performance, as measured by speed, range and nuclear capability.

By far the most important increase in striking power—beginning now and extending four or five years into the future—is provided by the addition of B-52 heavy bomb wings. Present plans call for 11 of these wings at 45 planes each to replace the 30-plane B-36 outfits. Already an extremely powerful weapon, the B-52 is due for improvements that will produce increased speed and range in future models.

The B-52 wings, together with the more than 1,400 B-47s that are deployed around the world, constitute a retaliatory striking force of tremendous power.

What is more, the impressive capability of these SAC bomber elements will be significantly improved in 1958 as KC-135 jet tankers become available. The essential contribution of tankers to our long-range striking power is to some extent indicated by the fact that SAC's training exercises require one refueling operation every minute for a total of about 3,000 a week.

As a complementary element of deterrence we have a constantly improving Continental Air Defense Command. Its early warning devices, guarding our northern and seaward approaches, would flash the signal of hostile bombers to the Air Defense Command and the Strategic Air Command. This warning could be all-important in saving our bombers from destruction on the ground.

Electronic control and direction centers, comprising the SAGE system, are being built and tested and will be put into operation as soon as possible. In case of multiple attack, these centers would give commanders a clear picture of the situation, and they would automatically guide manned interceptors and missiles to their targets.

Major improvements in the range, speed and power of our tactical forces have increased our ability to hit battlefield targets anywhere in the world. Made up of light bombers, fighter bombers and reconnaissance planes, these composite strike forces have proved their ability on nonstop, operational training flights from the States to bases in Europe and Africa. The ability of these forces to sustain themselves in combat for 30 days after arriving at a forward base makes them our principal weapon for suppressing local wars. Also, their ability to deliver nuclear weapons, coupled with the extension of their range through air refueling, has greatly increased their capacity for delivering strategic blows along with SAC.

Of course the guided missile field itself—in all its categories—presents the greatest opportunity for future improvements. We have already in operation three groups of Matador missiles in Europe that have proved their ability to destroy targets formerly assigned to our fighter bombers, and our Falcon air-to-air missile is operational in interceptors.

Both the Bomarc area defense missile and the Snark—an intercontinental, pilotless aircraft—have shown up well in tests.

Ballistic missiles of intercontinental and intermediate range, with their tremendous altitude and speed, promise to give us a major increase in combat capability. As these nuclear weapons become operational the element of uncertainty concerning their ability to penetrate an enemy's defenses will virtually disappear from our calculations. The President has therefore given overriding priority to an accelerated development program for two intercontinental ballistic missiles of related design—Titan and Atlas. Our intermediate range Thor is in the testing stage.

The improvements I have cited are just some of the factors that account for our impressive, aggregate gain in firepower. They leave no doubt on one point of great importance. We can deliver more destructive force on more targets at greater distance more quickly and accurately than ever before. What is more, we are certain of our ability to bring into operational use even more advanced weapons that are in development and testing stages.

This means that we shall reach progressively higher levels of firepower per person and per unit in the future.

As a matter of fact, our knowledge of this gain had impelled us to propose a reduction of the 137-wing force structure even before our share of the present budget request was established. By looking at the type and effect of planned reductions, we can see why that step could be recommended.

The Tactical Air Command, for instance, will lose six wings by July 1958. These losses will include one now-obsolete wing of B-45 tactical bombers, two fighter bomber wings and three day fighter wings. Meanwhile, however, TAC's Matador groups will be adding more power for use against battlefield targets.

Even more important, our tactical wings are due to be completely equipped with supersonic Century Series fighters by mid-1958. Also, by that time, the Army's progress with short-range, guided missiles should cut down on its need for tactical air support from the Air Force. Planes that are made available by this move will be used to speed up the modernization of our Air Reserve Forces.

Of the six wings being dropped by SAC, all are long-range fighter outfits that were needed to help the B-36s reach their targets. Thanks to the greater penetrating power of our faster B-52s, many of these planes could be shifted to tactical elements.

Although our 32 air defense wings annot be increased to 34, as planned during the coming year, the kill capability of these units is being increased by deliveries of more supersonic, all-weather, Century Series planes, and by air-to-air missiles with atomic warheads.

Bigger, faster air transport planes, as the key to our streamlined supply system, will continue to speed up priority movements of people and high cost supplies, reducing costly pipeline time and overseas stock levels. Our air logistic capability is also the muscle of our mobile combat elements.

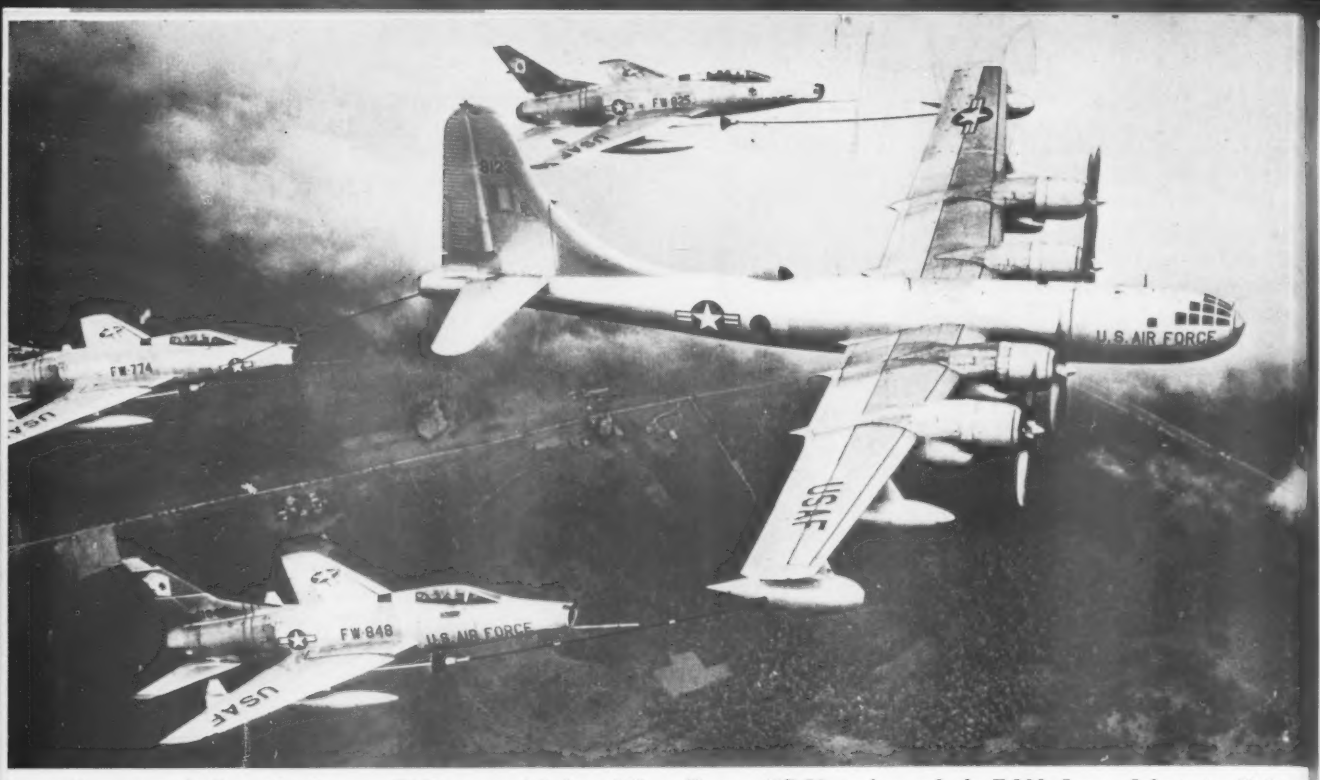
In addition to the 128 active wings in our program, there is a provision for 51 wings in the Air Force Reserve and the Air National Guard. These organizations have a realistic role in mobilization plans, and they are steadily increasing in readiness and combat capability.

The Air Force Reserve will have 24 wings, including 18 troop carrier and 6 fighter-bomber types. The coming year should bring an increase in personnel of about 9,200 officers and airmen, a corresponding increase in flying hours, and a greater degree of modernization with F-86Hs and C-119s.

In the 27 tactical wings of the Air National Guard we have a hard-hitting, increasingly effective force-in-being. Consisting of 25 fighter interceptor wings and 2 tactical reconnaissance wings, our Air National Guard elements are standing runway alerts at 20 air defense installations throughout the United States and Hawaii. In the coming year, expansion and modernization will bring an increase of 350 planes and more than 4,000 officers and airmen.

Also during that period, the National Guard will approach 100 percent of its authorization for all-weather planes, including F-86Ds and F-94Cs.

A test model of the B-47 was kept in a wind tunnel for more than 19,000 hours—about 76 times longer than the 250 hours of research needed to design a typical World War II bomber.



Air-to-air refueling: the key to TAC's new global mobility. Here a KB-50 tanker refuels F-100 Super Sabres in flight.

Future Progress

The wing structure just described is adequate by all reasonable estimates to meet the challenge we face in the foreseeable future, but only on these conditions: That modernization of air weapons is carried forward; that our base system is expanded and improved; and that a larger proportion of our highly skilled, expensively trained people remain in the service.

A satisfactory rate of modernization requires continuing and rapid progress in many challenging jobs. It requires intensive training of people who will use the new equipment. In the case of highly complex planes like our Century Series models, modernization demands the speedy accomplishment of engineering changes that are needed to standardize the item before it goes into accelerated production. And of course it requires, in the earlier stages, an effective approach to the problem of reducing development and production leadtime.

The most acute aspect of our need for improving our base system at present is that of dispersal. We estimate that the problem of denying lucrative targets—in the form of B-52s parked wing tip to wing tip—to a potential aggressor will require something like a threefold increase of heavy bomber bases.

After a long delay, the program for construction of family quarters is beginning to move ahead. However, progress in this area still is not fast enough, and the administrative and financial delays in the Title VIII program have permitted the completion of only one major project of 944 units with 17 other projects—totalling around 13,000 units—under construction. Many more are presently under advertisement for bids by contractors.

Looking ahead, we estimate that by July 1958 about 34,000 of our total program for 48,000 units will be contracted for and that 11,000 will be ready for occupancy. By that time we expect to have 5,000 Rental Guarantee units under construction or completed in overseas areas. We also expect to have under contract by then 7,500 surplus commodity houses of which 3,500 will be complete.

Until we make some real progress in providing living quarters for our families, we are going to accept losses in combat capability and career incentive. These are unavoidable results of conditions that place our people at remote distances from the duty stations to which they would report in an emergency, and which exact payment of exorbitant rentals for inadequate quarters.

The housing shortage I just mentioned is only one of the factors that account for our difficulty in keeping our highly skilled technicians and aircrew members.

We also need to bring pay and benefits more nearly in line with what your ability would command in civilian life.

Some progress has been made in recent months through legislation to increase service benefits; and throughout the Air Force we are working to improve our methods of dealing with people. At Headquarters USAF, these actions have been aimed primarily at a reduction of transfers and at better assignment and promotion policies. Meanwhile, our commanders around the world are doing all they can to give their people better living conditions and improved facilities for work and recreation. Thanks to their leadership and to the manifest importance of our operations, a keen sense of mission and pride of service continues to pervade the entire Air Force.

The fact remains, however, that we are still losing too many of our young pilots and first term airmen, particularly the airmen with critical skills. We therefore have to convince more of our capable people that an Air Force career will properly reward their talents.

To promote this effort, the De-

fense Department's Advisory Committee on Professional and Technical Compensation, known as the Cordiner Committee, has emphasized a clear need for pay increases based on ability.

Their recommendations have provided the framework for legislative proposals—now under consideration by committees in both houses of Congress—to give more pay to exceptional individuals who have been trained at great expense to perform difficult and demanding jobs. Only in this way—by keeping the people who are able to make best use of our advanced weapons—can we meet the Soviet threat.

No matter how spectacular this hardware becomes, it is still nothing more than a tool for expressing human will and extending human power. It is therefore obvious that men of first rank as thinkers and as doers—men like Mitchell, Trenchard, Douhet, Seversky, Arnold and O. A. Anderson—are just as essential to our future success as they were to our past achievements.

As we move farther into a period that promises no abatement of international tensions, there are certain trends and events that clearly foreshadow the exceptional human capacities that will be required. The trends that are likely to exert the greatest influence on deterrent power and on our jobs can be labelled as follows: A progressive move toward smaller inventories of high cost, increasingly complex and powerful weapons and equipment; a continuing need for mixed forces of manned aircraft and guided missiles; and rapid refinements of operational concepts around new weapons. The challenges imposed by those factors alone will absorb the best talents we can bring to our jobs.

As the cost, speed, range and power of weapons steadily increase, quality is going to be more and more the object of concern in our equipment and our people. Each of these devices—the manned aircraft and the guided missiles—will represent a major segment of our total striking power. In the critical task of maintaining, testing and using them there will be practically no margin for human error or indecision. The airmen directing an 8 million dollar bomber on GCA, the aircrews on simulated bombings and intercepts—all of you are discharging an increasingly important public trust.

There can be no close approximation as yet concerning the ultimate ratios in which missiles may be used to replace or augment manned aircraft. However, the difficult and complicated problem of proving the operational capability of missiles largely through simulated firings will take a long time. So for some time to come we shall probably have to support both systems.

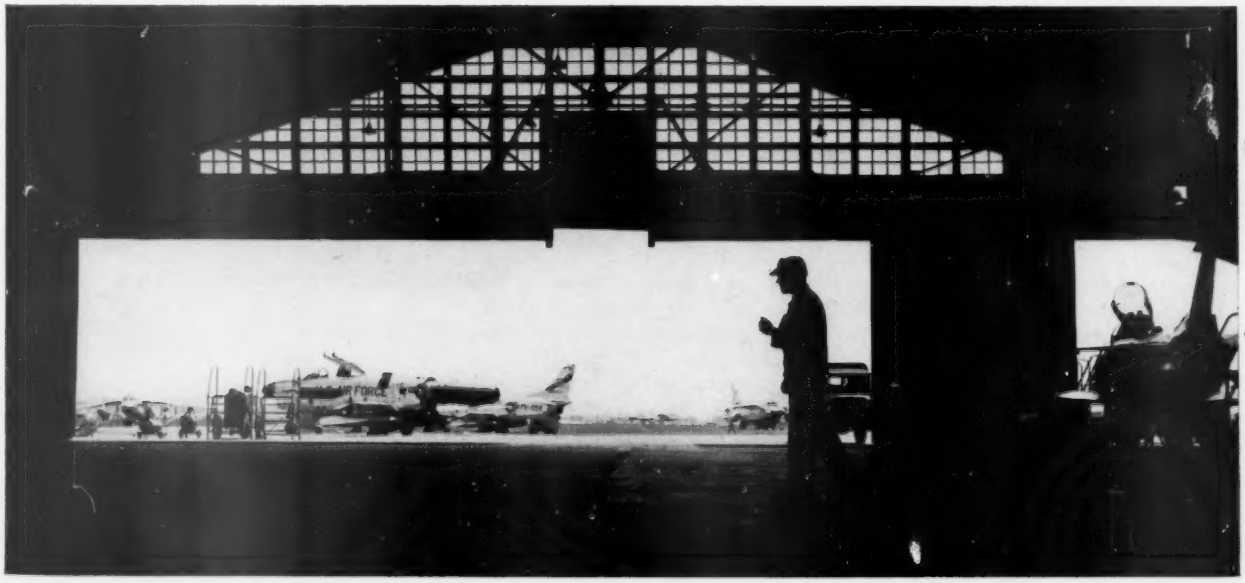
Our people at missile sites—many of which will be located in remote areas—will not have the same job satisfactions that help motivate technicians and aircrews for manned planes. The measurement of their proficiency will not be as concrete or precise. So tomorrow's missile site commanders will have to find new incentives to replace those that have been removed by technical progress.

The fact that basic air doctrine defines airpower's special advantages and uses does not permit us to be content with a rote memorization of rules. This process of rapid change in our weapons forbids such a course. They change so fast that we cannot base our security or our concept of operation on fixed inventories of weapons in a given class. To the contrary, the overriding importance of qualitative improvements in new weapons compels us to "custom build" those which represent the forefront of scientific achievement. This keeps us in a constant state of change and transition to new and improved concepts for using new and improved weapons.

So the operating doctrine that we recited yesterday may well be useless unless it recognizes today's realities. It has been our capacity for rapid, realistic adjustment that has made airpower the dynamic, ready-to-go instrument of military force and national policy that it is today.

From this view, it is clear that in the future, as in the past, we shall operate in a climate of transition close to the limits of technical progress and human endurance. Only our mission will be constant: to continue the development of airpower as an absolute, military instrument of deterrent force to protect our nation.

Highly skilled technicians are key men in today's Air Force. S/Sgt Cecil Echols, at Yokota AB, Japan, supervises preflight of F-86s.



ARCHIVES

Baling Wire and Fabric Crates

America's "ace of aces" in World War I recalls the day he asked for and received too much from a Nieuport fighter

by Capt. Eddie Rickenbacker

Although I am aware that it dates me back to another era, I have been doing research of late to determine whether today's fighter pilot develops and experiences the warm, highly personal feeling of affection for his sleek, gleaming, electronically-controlled airplane that World War I pilots had for the baling wire and fabric crates that bore us into combat.

I know this confession will evoke many a smile and mixed feelings of tolerance and embarrassment that a corny sentiment nearly always brings forth in this generation. The plain truth of the matter is that the attachment many of us had for our ships was just a little short of love—the kind that a man develops for a good woman after years of close association through life's triumphs, trials and tribulations.

I say just a little short of love because in an association between two human beings each can learn to understand the idiosyncrasies and shortcomings of the other to the extent that the deficiencies themselves are not only accepted, but strengthen the bonds of affection.

The airplanes we flew had plenty of these deficiencies, and I can't say we ever learned to like even those shortcomings, but we did learn to live with them. We knew that our little fighters could sustain us—up to a point. Whenever, in the excitement of combat, we went beyond that point and got into trouble, we grumbled and groused at the airplane. But deep inside we knew we had nobody to blame but ourselves.

In World War I, the old 94th Squadron fought many of its combats in the Nieuport fighter, since it wasn't until the late summer of 1918 that we received the Spad which accounted for most of our victories. Fast, by the standards of its heyday, and easy to fly, the Nieuport won its share of victories. However, it had one alarming weakness which made it somewhat obsolescent for combat in the later days of the war—a sharp maneuver simply ripped the fabric off the airplane's wings. At one time or another, almost all of us who flew the Nieuports were victimized by this structural weakness. It was the direct cause of the capture of Capt. James Norman Hall, a member of my Squadron. Some of the others, like myself, were able to walk away from the wrecks. In fact,

the great Maj. James A. (Jimmy) Meissner, another member of my Squadron, did so twice.

I got my personal indoctrination in the Nieuport's weakness on the morning of May 17, 1918. Every time I recall the experience I can very clearly hear my mother quoting to her brood of children: "Pride goeth before a fall."

A war buddy, Capt. Reed Chambers, one of the real aviators of our Hat-in-the-Ring Squadron, and I talked for many hours the night before, as we often did, trying to hit on some little extra trick that would assure us more victories over the Germans. This was a very popular pastime of young fliers in those days. Combat aviation was such a new arena of warfare, we were all convinced that if we thought long enough we could devise something that had never been tried before which would spell the difference between victory and defeat. In all probability, the Germans were sitting up nights in search of a similar magic formula.

On this particular night we did figure out a different strategy and agreed to meet at four o'clock in the morning to try it out. We met at that ungodly hour and put the finishing touches to our scheme while we gulped a few cups of scalding coffee. Our plan was simply to take off well before daylight, climb as high as the Nieuports would take us and hover around high over the enemy's front yard in hopes that we might pick up a stray machine headed for the Allied lines to take photographs. It was a wonderful plan, and so simple that we wondered why nobody had ever thought of it before.

As our leader, Maj. Raoul Lufbery, one of the top aces of the famed Lafayette Escadrille, often said, it was impossible to shoot down enemy planes sitting around the breakfast table. So, why not forget about the stream that was convenient and comfortable and fish in a more out-of-the-way spot where the game was known to be more plentiful?

Reed and I took off well before daylight and pushed our little ships up to 18,000 feet. That was just about as high as we wanted to take them, because at 18,000 feet in those days I would have sworn the temperature was about 18,000 degrees below zero. Pressurized cockpits and oxygen? It would take decades before anybody even got around to explaining to us what those words meant. Remember, we didn't even have parachutes!

Despite the numbing cold and a slight dizziness brought on by the extreme altitude and our empty stomachs, we waited and waited, two specks in the sky patiently patrolling a sector over three and a half miles above the trenches. Dawn came on a beautiful cloudless day. Our scheme had worked perfectly without a single flaw. The only thing wrong was that the Boches, for some reason, just didn't seem to want to take advantage of these perfect conditions to photograph our lines.

For about the twentieth time I turned back on my beat, extremely conscious of the cold, my breakfastless stomach and the overall misery of getting up so early for nothing. I noted that I had about an hour's fuel left and contrasted my condition with that of the fellows back in the warm billet, just sitting down at the table loaded with hot food. I thought again of Major Lufbery's remark that you couldn't shoot down Germans at the breakfast table. At least on this day, they were shooting down as many as I was. Brother, had I been badly treated!

Finally I came out of my reverie long enough to look for Reed. I searched the whole sky for any sign of him. Apparently he had enough sense to recognize a wild goose chase before the bitter end. When I couldn't find any trace of him I assumed he had gone home.

Just as I was about to make up my mind to follow him, I thought again of my analogy of fighting Germans and catching fish. It just could be, I thought, that even this stream was a little too handy and a little too close to our own lines. But off to the east was Metz, that famous old fortress city on the Moselle River, just teeming with Germans. At that time it was the gateway between Germany and her front line on the Meuse. So off to Metz I went, hell-bent to salvage something out of an early morning foray.

I climbed still higher to 20,000 feet and admired the huge red ball of the rising sun behind the distant mountains of the Rhine Valley. As I sped deeper into enemy-held territory, I felt truly invulnerable. I was certain that the sound of my engine could be heard by Germans manning several antiaircraft batteries below me, but I was secure in the knowledge that even with the help of telescopes they couldn't see me in that blazing morning sky.

While my feeling of omniscience and the admiration of the breathtaking scenery below was indeed pleasant, I made several passes back and forth and around Metz, still without finding what I had come for. After bidding goodbye to the Queen City of Lorraine, I checked the Frascati airdrome whose hangars topped the hills, but it seemed that no German saw fit to leave the ground that day.

Realizing that I had little extra gas remaining, I decided to make just one last check of a field near Thiaucourt, circling two or three times with my engine dead. Watching carefully and circling silently, like a bird of prey, I eventually did notice some activity. Three graceful German Albatross machines took to the air and struck a course that was obviously for the lines. I scarcely breathed until their backs were well ahead of me, then I cut in my engines and gunned the little Nieuport for all she was worth.

Pursuing them, I forgot everything else and kept my gaze fixed on the leather-jacketed shoulders of the German flying the rear-most Albatross. I was so eager to let them get over our lines before opening up the attack that I quite forgot the fact that I was a conspicuous figure to the German Archies (ack-ack) below.

Several bursts of shellfire just in front of me soon reminded me of my negligence. Without waiting to see whether I was hit, I opened the throttle all the way and dived at the closest Albatross. Again I saw a single black burst of a shell ahead. This time it was the Archies firing in front of their own aircraft to warn them of the pursuit. They looked around and saw me, registering surprise that an attack could come from the rear this far behind the lines.

When their leader made his first

swerve I was less than 200 yards behind the nearest Albatross. I was oblivious to everything but those Germans, and in a dive at a speed of about 200 mph—a really furious pace for a Nieuport—I kept her nose pointing at the tail of that Albatross which now was also entering a steep dive in an attempt to escape. I held off until the distance closed to 50 yards, then opened up with a ten-second burst of machine gun fire.

As I saw those flaming tracers pierce the back of the pilot's seat, my only thought at that instant was that this Boche had made a truly foolish and fatal mistake—attempting to outdive, rather than outmaneuver me. In the split second that this thought flashed through my mind, I realized that my own position must now be pretty precarious and that a little maneuvering on my own part was undoubtedly called for. It occurred to me that while I was chasing my single Albatross, either or both of the other two must have maneuvered to my tail and now had me trapped just as I had their fellow pilot a few seconds ago.

I suppose that I prolonged the speed of my dive too long, although I was so intent on getting my prey that I honestly believe I would have followed him right into the earth, if necessary. At any rate, as he fell off and began to flutter, I pulled the stick back into my seat, hoping to go into a sharp climb and outwit the two Germans behind me.

This was asking too much of the Nieuport. With a rippling crash that sounded like the crack of doom it announced its notorious weakness. The sudden strain collapsed my right wing. The entire spread of canvas over the top wing was torn off and disappeared behind me. The Nieuport turned over on her right side and despite any efforts I could make, the tail was forced up and began revolving faster and faster, round and round.

Without the thought ever expressing itself in those exact words, I believe that somehow I accepted the fact that this was the end of Rickenbacker. First I wondered vaguely whether the two remaining Albatross machines would continue to fire at me all the way down. I remember that I wasn't angry at those pilots, but it seemed to me to be incredibly stupid of them to continue to pump lead into a doomed ship. Weren't they intelligent enough to see I wasn't playing possum—that I really was crippled and hopelessly out of control?

The ground came closer and closer. I wondered exactly where I would strike. There were the woods of Montsec below me. I wondered whether the airplane would disintegrate around me and let me fall free, whistling through the wind. Would I strike the ground and splatter all over? Maybe I would be lucky and land in the trees with only a few broken bones. After all, both Jimmy Hall and Jimmy Meissner had escaped death that way.

But what was the choice at this stage of the game? Would it be better to be a mangled prisoner in Germany or a dead flier in Germany? Which announcement would my mother prefer to read in the inevitable telegram from the War Department? With the thought of my mother I felt a sudden spasm of intense longing to see her, and it brought back some of my fighting spirit.

I began to wonder why the speed of my tailspin hadn't increased. With every swing around the circle I felt a regular jar as the shock of the air cushion came against the left wing after passing through the skeleton of the right one. I felt a growing irritation over those bumps. Although I had experimented with the stick and the rudder and even shifting the weight of my body, I found I was unable to modify, even in the slightest, the gyrations of the Nieuport.

I looked overboard. I was scarcely 3000 feet above the ground, where certain crash awaited me. Also waiting, I noticed, was a group of men standing in front of a line of trucks. No doubt they would rush over to strip souvenirs off the plane—and maybe even off my person.

Disregarding consequences, and hoping more to end the ordeal as quickly as possible than anything else, I jammed open the throttle. The sudden extra speed righted the Nieuport and when I grabbed the stick and tried the rudder, I discovered I was actually flying again—at least I was making headway much faster than I was falling.

I looked below and estimated that if I could keep this up just another five minutes I could make it. I saw our own lines beckoning to me a scant two miles ahead. Even the firing of the Archies couldn't entirely dampen the elation that swept over me. If we had radios and the airdrome recorded my conversation from then on, I am sure that I would have been met on the ground by a team of medics with a straitjacket to rush me right into a padded cell.

Believe it or not, I talked to that Nieuport all the rest of the way in. I was so grateful to her for not letting me down that I actually cooed words of endearment, words and terms that any decent man should reserve strictly for the ears of his wife.

We made it—that Nieuport and I. Before an audience of French aviators, who had rushed over from an adjacent hangar to watch a fool American novice try to land with his motor going full blast, we slithered over the hangar roofs and made it back to terra firma in several clouds of dust.

The little fighter was in pitiful shape. In addition to her naked wing, she bore numerous scars as a result of machine gun bullets and shell fragments. As for me, the pride and gratitude I felt for the little ship overshadowed all other emotions. I climbed over her side, assuming quite an air of bravado, and asked in feigned anger about Reed Chambers whom I accused of having deserted me.

Actually, it wasn't until much later, when I had a chance to recount my experiences to myself alone in my bunk, that my knees turned to water.

I've told this story because, through the years, I have discovered that lessons learned in combat usually apply to everyday living. When you are actively engaged in a war, events are brought into sharp focus and, of course, everything happens at a much faster clip.

The moral is obvious: airplanes of all eras have their limitations. If you familiarize yourself with the equipment and know these limitations, then they will stand you in good stead so long as you stay within the prescribed limits. Treat an airplane, or for that matter any piece of equipment, like the good friend it is and you'll be surprised how it will reciprocate.

If, on the other hand, you become so intent on other matters that you ask your ship to do the impossible for you, you'll very likely get into trouble—as I did. In that case, I strongly recommend gritting your teeth and adopting a determined will to get out of the jam you're in. When you've done that, do some real hard praying, because when the chips are really down, that is the only thing that can really help. How well I know this!

The 94th "Hat-in-the-Ring" Squadron was the first American aero unit to participate actively on the Western front in WW I. L. to r. bottom row: Lt. L. Prinz, Lt. H. H. Tittman, Lt. F. Ordway and Lt. W. W. Smyth. Middle row: Lt. Wm. G. Loomis, Lt. C. A. Snow, Lt. M. E. Green, Lt. A. F. Winslow, Maj. K. Marr, Capt. E. V. Rickenbacker, Maj. J. A. Meissner, Captain T. C. Taylor and Lt. G. W. Zacharias. Top row: Lt. Hamilton Coolidge, Lt. A. L. Cunningham, Lt. W. W. Chalmers, Lt. J. H. Eastman, Lt. A. B. Sherry, Capt. John Wentworth, Lt. R. Z. Cates, Lt. E. Clark and Lt. J. N. Jeffers.

Capt. Edward Vernon (Eddie) Rickenbacker, who authored "Baling Wire and Fabric Crates" especially for THE AIRMAN, was born in Columbus, Ohio, Oct. 8, 1890. His father died when he was 12. The day after the funeral he went to the Columbus Glass Company and talked himself into a job by saying he was 14. This was the end of his formal schooling. He worked 12 hours a night, 6 nights a week, and turned his weekly $3.50 paycheck over intact to his mother. Later he advanced to a better job ($6 per week) in a foundry; then in a shoe factory at $10, and at last in a garage, where he learned the little there was to know about the horseless carriage.

He took correspondence courses in engineering, and in 1910 began winning automobile races. Four years later he pushed a Blitzen Benz to the unbelievable world's record of 134 mph. When the United States entered World War I he was making $40,000 a year, was one of three top U. S. drivers.

Rickenbacker was one of the first to enlist and was sent overseas. He was at first assigned as General Pershing's staff driver but transferred to aviation

ACE OF ACES

in Aug. 1917 and was sent to the flying school at Issoudun, France. He misrepresented his age (he was almost 27 —two years over the limit for airmen) took 17 days' training, soloed and got a lieutenant's commission and a pilot's wings although he tore off the undercarriage of his plane on his first solo flight. The dashing young college men of the 94th Aero Squadron, to which he was assigned, were not pleased—Rickenbacker was a celebrity and proud of it; he knew engines and said so.

He shot down his first German plane on April 29, 1918. Rickenbacker hunted with coldness and logic, refusing to fight unless he had every advantage. The automobile race tracks had given him a marvelous judgment of speed and distance and a chilled steel nerve; in the words of one old squadron mate: "I've seen him go in so close he could hit the other ship with a baseball before he pressed the trigger."

On the ground, he checked his engine himself. For fear of jamming his cranky guns in combat, he carefully examined every bullet before he loaded his machine-gun belts. On Sept. 24, 1918, he was commissioned a captain and put in command of the squadron. Recalling the event, Reed Chambers, another immortal of the 94th said, "By then the squadron had begun to love him. At first he was regarded as an uneducated, tough hombre who threw his weight around the wrong way. But he developed into the most natural leader I ever saw."

As commander of the famed 94th Aero Pursuit Squadron, he earned the title "ace of aces," and when the war ended he was America's premier ace with 19 decorations for bravery and an official box score of 22 German planes and 4 balloons.

In the Second World War, he visited various theaters of operation on special missions for the Air Force. During one of these trips his plane crashed in the Pacific and he and the crew were adrift 21 days before being rescued. The epic story of his courage during the ordeal endeared him to millions of Americans. Through the years Captain Rickenbacker has continued to gain public respect and has been an inspiration to every aviation-minded American.

PROPS TO JETS

A Maturing Profession With Peace As Its Product

by Col. Francis S. Gabreski

In Korea, Colonel Gabreski shot down six and a half MIGs to give him a combined score of 40 enemy aircraft destroyed, making him the nation's top living air ace.

People are eternally having anniversaries. There's something about an anniversary that appeals to the human desire for an orderly recognition of one's whereabouts in a vast sea of time. It gives people everywhere a delightful chance to make a fetish of the calendar and celebrate the mere fact that the years themselves have rolled by.

It is the anniversary's traditional glance-back to humble beginnings—with both amusement and reverence—that gives people the feeling of being "modern." But, more important, it tends to make us pause and reflect upon *growth* and *accomplishment;* and appraise them accordingly. Between times our thoughts are tuned to the individual problems of the day. The real value of the anniversary is the new perspective it lends. This is especially true in the case of a profession.

Today we find that we've been in business for 50 years. Since the day that man first found a way to leave the earth and return, an adventuresome business has developed into a profession that has caused one of the greatest impacts ever known upon civilization. The activity of hurtling a person through the air in a machine has been responsible for the birth of mammoth industries, the taking of millions of lives, the saving of millions more, and a whole new realm of scientific thinking.

It is truly one of mankind's great tragedies that an advancement of such magnitude should be nourished mostly by war. But whether a boon or liability to humanity, its effect was unmistakably clear: Man had found an incredibly faster way to move about and by his doing so, the world had become a smaller place in which to live.

It behooves any profession to make good use of its anniversaries as a springboard for appraising its development. This is particularly vital in our profession in view of the colossal growth that has taken place during its 50 short years.

Airpower has passed from adolescence to maturity in the blink of a historian's eye. From little more than a unique support element for a nation's armies, it has in a few decades emerged as the dominant force in world affairs. Its strategic aspects have brought a new factor to the diplomatic table; its demands have placed new challenges before industry and science; its uses have brought new horizons to world commerce; its progress has brought a sense of pride to all who have been a part of it, and its incalculable potential for destruction has brought a sense of horror to all mankind.

To a profession, as to the individual, maturity brings with it responsibility. For an Air Force that has come of age to meet this responsibility, it is necessary that we appraise its development carefully, examining the changes that have come about and those that are still in process. In doing so, we might well discuss the transition undergone by these four elements of airpower: The Machine, The Man, The Magnitude, and The Mission.

The Machine

I can remember standing on the flight line of Selfridge AFB, Mich., in 1949, at what for me was the dawn of the Jet Age. I had been away from flying for two and one-half years, doing academic work at Columbia University. Now, like many of my World War II friends, I was returning to the world of aviation once again and finding it changed almost beyond recognition. We had foolishly thought that the war had taught us all there was to know about our trade. We soon learned that an entirely new transition had taken place, making our knowledge obsolete.

These revolutionary changes in the flying machine we once knew had a terrific impact on all of us. It was a young man's game, and we found that we had to start thinking young. As we became students again and were taught the rudiments of jet flight by instructors often several years our junior, we began a second cycle of learning in our ca-

reer that has continued to this very day.

Like a group of youngsters, we timidly explored the mysteries of the F-80. I can vividly recall my first solo flight, packed with all the emotions that were felt a decade earlier when taking the initial Cub solo. In looking forward through the windshield, I squeamishly felt that there was something missing up front. The familiar whirring blade was gone. That was distracting enough, but when I advanced the throttle came another new sensation. It seemed that the aircraft was quite underpowered, since there was little noise and very slow acceleration down the runway. It was a normal first reaction.

Since then we have all come to realize that jet acceleration is much slower than anything we knew in prop-driven aircraft. It appears that the lack of vibration and the aft-location of the engine gives the impression that there is a great lack of power. Once airborne, however, there was little doubt that we were riding the crest of a new and unbelievable era in air travel with the power that was only a daydream in the cockpit of a P-47.

During the years that followed we were to test this new behemoth in actual combat over Korea. It was then that we were truly given a chance to compare this strange beast to our familiar Thunderbolts and Mustangs. We soon found that a 14-to-1 combat ratio confirmed our expectations. It was a baptism of fire that resolved our confidence in this new mode of flying.

Since then, although during seemingly peaceful times, advancements continued to come thick and fast in a frenetic scramble to make the flying machine do even more. The relentless drive of aerodynamic engineering and electronics quickened its pace to the point where a plane was almost antiquated before it left the drawing board. Not even the far-sighted visionaries of aviation's early days could have predicted the revolutionary changes that took place in an incredibly few decades.

What was the prime cause for this lightning-quick metamorphosis of an industry? True, men will credit the impetus of World War II and, in a sense, this is correct. But the real factor in the development of today's flying machine was the aircraft industries operating within our free competitive system.

When the world suddenly awoke to the fact that the safety of the man on the ground depended largely on the man in the sky, the industries gave the pilot what he asked for. During the war he was given 300,000 planes by American industry—twice the number produced by Russia and three times that of Great Britain or Germany—and with a quality unmatched by any other nation.

In the succeeding years they have doubled their strides to make an obedient and lethal robot of what once was only a wood frame, a piece of canvas and a souped-up automotive engine. The results all but exceeded the imagination.

We have passed into a time when the draftsman and the electrical engineer are sovereign. They have given the pilot a machine that can fly an unseen path; locate an unseen target; compute its own sightings, range and projectile-drop; fire its own weapons and return to an unseen airstrip. Through the advent of Ground Controlled Intercept, Target Directional Posts, LORAN, SHORAN, internal radar systems, and a seemingly endless array of automatic flying aids, the entire concept of aviation has been transformed.

Where we once thought in terms of 30,000 feet altitude, 350 miles per hour, and a thousand mile range, we now soar to heights of 12 miles and above, gauge our speed in terms of "mach" and ultrasonic travel, and look at a globe instead of a strip map for a single mission. And for every problem that new performances created, Air Research and Development Command, in cooperation with industry, found an answer.

Altitude demanded heat and oxygen; "G" forces demanded special circulatory control suits; high speeds demanded a new way to leave the ship in emergency—summoning the innovation of an ejection seat whereby a man can escape within three seconds.

Today, in producing and perfecting these electronic wonders, American industry has developed a fierce and healthy competition that pyramids the output of their combined efforts. The expansion has been almost beyond belief. To build a jet bomber capable of circling the globe in a matter of hours, the complexities of production involved over 10,000 subcontractors. The same kind of teamwork has produced the transport of 24,000 horsepower that carries a 100,000-pound payload. By way of contrast, that plane's fuel load alone is more than eight times the weight of an entire transport manufactured 30 years ago.

Yes, our business, as every other, has undergone an industrial revolution. Our tool of the trade, once run "by hand," is now encompassed by a drastic automation. But in contrast to other industries, automation in flying does not replace the human being. Instead, it simply provides him with a machine that will do more for him, placing at his fingertips more power, thus making the human element more important than ever before.

The Man

I can remember waiting with anticipation on the flight line at Boxstead Airdrome in England as the late Col. Dave Schilling, commander of our 62nd Fighter Squadron, 56th Fighter Group, returned from his

The crew chief, armorer and communications man are a part of the team, and equally responsible for the victories. Colonel Gabreski poses with ground crew after returning from mission over France.

first mission. We cheered as he approached the field and executed a slow roll, indicating destruction of an enemy aircraft. It was the first kill and a big event for everyone.

Upon returning, he was met by the entire base personnel. Amid the congratulations of the throng and the flash of photo bulbs, Dave halted the proceedings long enough to summon three others to share the triumph with him. Before another picture was snapped, Dave's arms encircled a grinning crew chief, an armorer and a communications man. To Dave, and to all of us, those men were a part of the team and equally responsible for the victory.

If that scene were enacted today, the pilot's arms would have to encircle about 50 people. Paralleling the transformations of our machines have been the changes in the men behind them.

In the pioneering stages of aviation as part of the Signal Corps, putting a plane in the air was a simple though arduous task. It required the efforts of a pilot and one or two people schooled in rudimentary mechanics. The first "specialization" that occurred came when work had to be done in a hurry. It was then that one man became the "crew chief," servicing the aircraft with fuel and oil. Another became the "armorer," a gunsmith who cared for the one or two guns in a manner similar to maintaining a hunting weapon. Any structural damage or maintenance was handled by someone experienced in cabinet-work, fabric and dope.

There is no question but that this relationship of individuals developed a high esprit de corps and pride in their peculiar mission. They were Jacks-of-all-trades in a new and curious method of waging war. They were elite.

With the advent of the aluminum structure, radio and electrical aids, the job of putting an aircraft into the air was expanded to embrace a few more specialists. People who were responsible for the maintenance of the aircraft, as well as the pilot himself, had to have a higher level of proficiency. There were a greater number of steps to the final product, and each step was more complex. And yet, even then in the early stages of World War II it took a relatively small number of men and few hours to send a plane against an enemy.

During one mission in Europe a cylinder of my engine was shot away and a few 20 mm shells went through my wing. However, they were not serious enough to prevent me from returning to my home base.

Upon landing I asked my crew chief if it was possible to make the necessary repairs and put the aircraft back in combat condition within two weeks. He assessed the damage and assured me that he would have the plane ready in about two days if there was another engine available. The engine was located and installed in two days. The men who worked on the perforated structure finished their skin work in about seven hours. These same men performed other maintenance jobs in addition, and performed them well. The crew chief and a couple of others worked on the propeller, the electrical system and installed the engine. They worked out on the hardstands in the mud, slush and ice. They worked together in hangars made of simple canvas and small Nissen huts.

During those trying days of hurried repairs and relentless missions there was born a bond of unified teamwork and identification that has lasted to this day. Perhaps it was fostered by the natural informality on the job that existed between pilot and crew. Maybe it was nurtured by the knowledge that each man depended on the other's special skill in order to accomplish the job and come back alive.

During the war years, as demands for higher performance were made and the machine became infinitely more complex, there was a change in the airman's job. No longer could he hope to know the aircraft from nose to empennage. He was trained to maintain only one component of the aircraft. Modifications came so fast that the manufacturers were obliged to send representatives as a means of high speed transfer of developments to personnel in the field. The current "dock method" of repairs by a small group expanded into gigantic "specialized maintenance" structures that we know today.

Under this system, the entire maintenance force has become centralized. The crew chief simply "squires" his aircraft through the maintenance gamut. This catacomb of specialization also began to present itself in most other phases of Air Force operations. The organization that began with a curious frame contraption, a man to fly it and a man to service it, had become a giant force of highly trained specialists whose combined efforts could produce more war-waging capability than ever before conceived.

Through the eyes of a Prussian militarist, today's airman would appear an unusual type of fighting man indeed. From the Army Air Corps of the last decade has come a breed of man never before seen on the world's fields of battle. True, he is still a disciplined professional soldier, but he has grown up in a new age of warfare where the machine and the man that guides it, rather than sheer numbers of human beings, is the dominant force. He still undergoes rigid training, but the emphasis is on his mind and his mastery of the steel and electricity with which he is to fight.

One might think that under the new circumstances this man cannot share the pride of the conventional soldier. After all, he is fighting only with engine oil or electrical circuits or radarscope against a foe whom he never sees. But the nature of airpower today has brought with it a new kind of pride. This is the pride of the specialist, inspired by the knowledge that he is a vital and indispensable link in the complex chain designed to send today's most powerful weapon to its target. And this brings us to our third area of airpower's transformation.

The Magnitude

From the day that a pilot first fired his pistol at another, the aircraft has been looked upon not only as a convenient mode of transportation but as an effective way of destroying an enemy. Although the fire from airborne Spandaus and Brownings and the dropping of explosives was felt to some extent by World War I ground forces, the full scope of this flying machine's destructive powers could not possibly have been imagined by the most farsighted strategists.

A strategist of another era, Gen. William Sherman, once said: "War is cruel and you cannot refine it . . . war, at best, is barbarism." To see exactly how barbaric war could become, the world had to experience its second war. It witnessed one people killing another in a cold, massive, more business-like fashion than ever before. Gone were the days of any semblance of honor or propriety in war. Science and technology had replaced the cavalier romanticism of battle.

Perhaps the most barbaric aspect of all was the horror and destruction caused both sides by the new spectre of airpower. No one was prepared for its sudden and disintegrating blows. Armies everywhere began to place a great emphasis on

the quantity of destruction that each plane could deliver. Machine gun calibers were enlarged; bombs made heavier to allow more destruction per punch. Then rockets were added to do even more damage than the most powerful machine gun. After the loss of millions of lives through four years of slaughter, the arrival of the atomic bomb in a sense was anticlimactic, but it did awake the world to a new way of thinking: that all the terrors that had come from the sky had been puny compared to what now could come.

We find today that the entire concept of warfare is reversed. The traditional military principle of "mass" is becoming obsolete. Sheer numerical supremacy has lost its meaning. In its place is found concentration on quality—packing the greatest amount of destructive force in a single unit. Even without nuclear firepower, some modern fighter aircraft can carry a larger load than a World War II bomber; with it, such fighters can carry more destructive power than all World War II planes put together.

Hence, even more than the man or machine, the magnitude of our profession has changed color. As difficult as it is for us to keep pace with the development of the planes we fly, it is an even harder task to fully comprehend the monstrous force we have harnessed and how to use it. This brings us to our final point of analysis.

The Mission

The mission of a military force is simple: to defend the homeland against aggression. Sometimes this requires an actual offensive; sometimes only a passive defense. As long as a nation has peaceful intent, its professional military people keep their jobs only by virtue of a need for that defense.

This business of airpower found its origin in that mission. Through two world wars it conducted its operations and planning with that mission foremost in its vision. Now, we must ask ourselves: "Has our mission changed with the times also?" It most certainly has.

Just as the Air Age has made the world smaller, so has it made the nations of that world more interrelated. On the day in 1950 that the North Korean troops crossed the 38th Parallel, all of us realized an indisputable fact that is axiomatic today: our mission reached much further than the defense of our own homeland; it encompassed the defense of the entire free world. An aggression upon any free people was considered an aggression upon our own, and we acted accordingly. And, moreover, we found that the most effective way to prevent any such aggression was to poise the most ominous striking force ever created. It was not a particularly new idea. George Washington said it in his first annual address to Congress in 1790: "To be prepared for war is one of the most effectual means of preserving peace."

In this we find our new mission—the preservation of peace on a worldwide basis. However, one can point out, if we are successful in this mission we shall bring about our own undoing. Our business will no longer be necessary. We'll all be out of a job. This is only partly true.

Today, as airpower celebrates its 50th birthday, it must look back upon those five decades during which its prime product has been war. It now stands on the threshold of an era in which it could use its speed, its nuclear power, its machines, men and magnitude in a mission to benefit mankind. Who knows what blessings it might bring if the Herculean efforts of the past 50 years are summoned for peaceful designs in the next? Before blowing out the candles, it might be well to make a wish.

Secretary of War Stimson congratulates Colonel Gabreski on his performance in combat during WW II as Generals Kepner, Spaatz, and Doolittle look on.

ABOUT THE AUTHOR

Colonel Francis S. Gabreski is commander of the 354th Fighter Day Wing at Myrtle Beach AFB, S.C., one of TAC's newest F-100 fighter bases.

Former commanding officer of the 51st Fighter-Interceptor Wing, Colonel Gabreski became history's eighth jet ace on April 1, 1952. His combined score of enemy aircraft destroyed, 6½ MIGs in Korea and 33½ during World War II, makes him the nation's top living air ace with 40 enemy aircraft to his credit.

Colonel Gabreski entered pilot training in July 1940, after having attended the University of Notre Dame for three years as a pre-medical student. His first assignment was with the 45th Fighter Squadron in Hawaii; from there he went to England as Liaison Officer to the Polish Air Force, flying 20 missions with them. In February 1943 the Colonel was assigned to the 56th Fighter Group. He was shot down over enemy territory in July 1944 and remained a prisoner of war until May 1945.

During his tour in Europe, Colonel Gabreski flew 166 combat missions and was credited with shooting down 31 enemy aircraft and destroying 2½ on the ground. After liberation from prisoner of war camp, Colonel Gabreski returned to the U.S. and was assigned to Wright Field, Ohio, as Chief, Fighter Test Section. The Colonel was recalled to active duty in April 1947 and assigned to the 55th Fighter Squadron, Shaw AFB, S.C. After completing his schooling at Columbia, Colonel Gabreski was assigned to his old World War II organization, the 56th Fighter Group. In June 1951, he was assigned to the 4th Fighter-Interceptor Wing in Korea. Upon return to the ZI in June 1952, he served as Chief, Combat Operations Branch, OTIG, Norton AFB, Calif. until July 1955, and briefly as DCS/O, 9th Air Force, before receiving his present assignment.

GEN. NATHAN F. TWINING, USAF

CHAIRMAN-DESIGNATE JOINT CHIEFS OF STAFF

The Chairman of the Joint Chiefs of Staff is appointed by the President with the advice and consent of the Senate and while holding such office takes precedence over all other officers of the armed services. The Chairman serves as presiding officer of the Joint Chiefs of Staff, provides agenda for meetings of the Joint Chiefs of Staff, and informs the Secretary of Defense and the President, when appropriate, of those issues upon which agreement among the Joint Chiefs of Staff has not been reached. He manages the Joint Staff.

Gen. Nathan Farragut Twining was born in Monroe, Wis., on Oct. 11, 1897, one of six sons. His uncle, Nathan C. Twining Jr., was a rear admiral, who during the First World War served as Chief of Staff to Adm. William S. Sims. Two of his brothers went to Annapolis. Robert B. Twining is now a retired naval captain; Lt. Gen. Merrill Twining is commandant of the Marine Corps Schools at Quantico, Va.

General Twining did not start out to become an airman. On being graduated from West Point in the wartime quickie class of 1918, he chose the Infantry as a career. At Fort Benning, Ga., where he attended the Infantry School, he was a member of the football team. One day they played against a flying-school team and, as a special treat, they were given rides in a Jenny before the game. It was not only a treat but a treatment: the infantrymen, Twining included, became sick, and they lost the game, 13 to 7. Nevertheless, the ride made Twining decide that flying was for him, and he applied for transfer to the Air Service. Twining was what pilots call a "natural flier." He seemed to know by instinct how to handle a plane in any situation.

In the Second World War General Twining commanded more air forces than any other general—the 13th and the 20th in the Pacific, and the 15th in Europe. At one time he was reported dead. A B-17 in which he was flying from Guadalcanal to Espiritu Santo ran out of fuel during a violent storm. By a miracle it landed on top of a mountainous wave, "as smooth as glass," Twining said. The general and 14 crew members were able to climb into two rubber rafts.

The Air Force didn't believe the fliers could possibly have survived in the storm, abandoned the search for them after two days. But one man would not give up. He was Gen. Frank F. Everest, now commander of USAFE. Calling for volunteers, he continued the search. Finally after six days one of his planes spotted Twining's rafts.

In 1947 General Twining assumed command of the Alaskan Command. Returning to Air Force Headquarters in July 1950 he became Vice Chief of Staff to Gen. Hoyt S. Vandenberg, and on June 30, 1953 was designated Chief of Staff of the Air Force. The general will take office on Aug. 15, 1957 for a two-year term as Chairman of the Joint Chiefs of Staff and will become the first Air Force man in history to hold the nation's highest military job. Since the position was established it has been held by General of the Army Omar N. Bradley and Adm. Arthur W. Radford.

☆ ☆ ☆ ☆

The SKY'S NO LIMIT

by M/Sgt. Edison T. Blair

Where a black-topped road dead-ends in weeds and palmettos in an abandoned hangar area at Orlando AFB, Florida, a TM-61 Matador guided missile slants its nose skyward, vibrating with the thrust of its jet engine blasting against the roadway. Suddenly, a T-33 jet trainer flashes overhead and noses up in the direction the Matador points. For guidance training purposes the T-33 becomes the missile and the Matador's engine whines to a stop.

Several airmen crouching behind tractors and vans stand up. They remove their earplugs and tuck them into little plastic cylinders worn on their dog tag chains. There's a smell of hot metal and jet fuel in the air.

"We did all right. Hope those guidance boys do as well," S/Sgt Bob Emmerling says. Bob is chief of the launch team and they just finished their part of a "count down." From now on it is up to guidance.

Several miles away guidance teams track the T-33 with radar. They radio signals to the pilot, guiding him as they would the missile toward a theoretical target. He follows directions and notes their errors. Later, he will tell them how close they came to the target.

Meanwhile, inside a fenced compound on the other side of the base, a simulated Missile Operations Center has been set up in a classroom. Groups of airmen are computing target data, weather and winds between the launch site and the target. They determine the altitude, speed and flying time needed to put the bird on the target and relay this information to guidance, control, armament and launch teams in the field.

Each team must perform certain operations at a specific time. The Missile Operations Center "keeps the count." They coordinate every move and relay all information through a communications net of telephone, teletype and radio. There's a back-up system in case part of the net goes out. If one of the teams has trouble, they stop the count until it is cleared up.

This is how TAC trained the Matador groups that have been on 24-hour alert for several years close to where the Iron Curtain stretches across Europe. Sgt. Emmerling's outfit is being readied for such a vigil, wherever needed.

"In this outfit everybody and his

job is important," he declares. "We can't do our job unless guidance and controls check out. They can't do theirs unless the assembly team is on the ball. None of us can do anything unless the truck drivers, supply men, transportation people, and just about everybody you can think of have done their job right, and at the right time. That's why we have teams instead of crews."

A rocket booster kicks the Matador into the air from a zero-length launcher mounted on a trailer. It is guided at better than 650 miles an hour until it dives on the target, then it cracks the sound barrier. Armed with either a conventional or nuclear warhead, its mission is interdiction —knocking out troop concentrations, supply lines, and communications immediately behind the battle line without risking the lives of fighter-bomber pilots who would otherwise do the job. This is the Air Force's first operational missile. Bigger, better, and far more potent birds are under development to strengthen its strategic, tactical and interception capabilities.

The Matador is highly mobile. Everything rolls on trucks, vans and trailers. The birds have a range of several hundred miles and can be launched equally well from camouflaged pads, highways or country lanes. The missiles are shipped broken down into components in special crates. Airmen uncrate, assemble, check them out and launch them in the field. Components are interchangeable between missiles.

To help prevent snafus, team chiefs in the 588th Tactical Missile Group have cross-trained their men to drive trucks, tractors, and operate the crane. A crane operator doesn't sit around an hour or two just to lift a bird on or off the launcher. A member of the team does it.

"The tech schools do a good job of training these men," S/Sgt Salem Wilt, another launch team chief, says. "And so do the Mobile Training Detachments sent out by Training Command. All we have to do is teach them to work as a team. They all pull their weight and don't gripe, even when they have to tear it apart and put it back in storage. All our maintenance is preventive. We don't sign it off until it can fly by itself. Not like when you finish an airplane inspection and the crew takes it up to find the bugs you've overlooked. We can't leave bugs, it's gotta be right the first time. It only flies once."

Most of the men at Orlando get a starry look in their eyes when they talk about some of the new missiles under development. A/1C Nick Kopac is an ex-infantryman and a jet engine mechanic by AFSC. But he spends about half his time on the Flight's ground power equipment and helping the airframe men.

"I had to study pretty darned hard to stay at the top of my class in tech school," Kopac says. "That's the only way I could get my choice of assignment and I wanted missiles. Now I hope to train for the Snark when I finish this tour."

His buddy, a guidance specialist, has his heart set on getting into a fighter squadron equipped with Falcon air-to-air missiles. He is fascinated by what he knows about their homing guidance system.

Orlando is the home of the Air Force's first Guided Missile Wing which has had its share of growing pains. There was no previous missile experience to draw on in preparing Tables of Organization, establishing supply levels and logistic requirements for the new hardware. But they were worked out, sometimes by trial and error. Later missile wings will benefit from their experience.

But then, growing pains aren't new to the Air Force. It has been only fifty years since that small group of men, whose vision was mistaken for foolhardiness, talked Congress and the War Department into buying the first military airplane. They began a revolution in equipment and weapons systems that has changed the whole concept of military tactics. Missiles are another phase of the revolution started by men like Arnold, Spaatz, and Mitchell.

Some think that missiles will completely replace the airplane. They won't in the foreseeable future. They are a category of weapons that make up an effective but complex weapons system. Even with their marvelously fast reactions and all-seeing electronic eyes they cannot think for themselves. Men must make the decisions and push the buttons. The Air Force expects the human pilot to continue to play a leading part in warfare for years to come.

However, what is good today might not be good tomorrow, General Twining warned cadets at the Air Force Academy recently.

"Airmen have developed a motto," he said, "which is in essence, 'to proceed unhampered by tradition.' We must fight the tendency to hang on too long to favorite weapons and tactics. Missiles have created the need for entirely new structures and we must integrate them into our combat force without losing effectiveness."

If the sky has a limit, guided missile development will certainly help us find it. Research has already started on atomic-electrical-ion pro-

The mobile Matador can be launched anywhere its trailer-mounted launcher can go.

pulsion systems that will push our civilization out into space. But even in the workaday world, the research being done is enough to fire the imagination and ambitions of people like Kopac, Emmerling, and a lot of others.

At Holloman AFB in the New Mexico desert, research teams are burning up the wind with a two-stage rocket known in the trade as Hypersonic Test Vehicle. It scorches along at 5,000 feet at Mach 7—seven times the speed of sound—while 15 pounds of instruments in the nose-cone gather data. The information it acquires can be projected to provide data on how missiles would operate at far higher speeds at greater altitudes.

The National Advisory Committee for Aeronautics has fired small model rockets at speeds of Mach 10.4 (6800 mph). In their laboratories they've duplicated conditions matching Mach 20 (13,200 mph) or more. Another test vehicle, the Lockheed X-17, stands as high as a four-story building and weighs in at better than six tons. Rockets hurl it into the ionosphere. Then it dives at incredible speed back through the blanket of air surrounding the earth.

All this is being done to find out what happens when the warhead of an Intercontinental Ballistic Missile (ICBM) reenters the earth's atmosphere. The problem is a tough one; of the falling stars you're likely to see on a clear moonless night probably not more than one in ten million ever hits the ground, because heat generated by their friction with air molecules vaporizes them. We have to overcome that problem if our missile's warhead is to reach the target.

The two ICBMs now under development, Atlas and Titan, have caused as much comment as the A-bomb. Their range will be measured in thousands of miles, their altitudes in hundreds. The thrust of the rocket motors may be a million pounds or better. That's more horsepower than ten thousand freight locomotives can develop together. They will carry their own oxygen supply to burn the fuel. Speeds will be greater than 10,000 miles per hour—their entire flight will take only 30 to 40 minutes. Not much time for intercept. It is easy to see why it presents reentry problems—shock-wave temperatures may reach 20,000 degrees Farenheit.

But even with a thermonuclear warhead the ICBM cannot be called an "ultimate weapon." This is just the first of such missiles. "The compelling motive for the development of space technology is . . . national defense," Maj. Gen. Bernard A. Schriever, boss of the ICBM project, states flatly.

These ballistic missiles, designed to wipe out industrial complexes and destroy the enemy's production of war materials, will be part of Strategic Air Command's weapon system. A single ICBM with a thermonuclear warhead will do more damage than thousands of World War II bombers.

Sixteen prime contractors supported by 200 subcontractors have hired 75,000 people to work on the ICBM project. The whole program—bigger than that organized to produce the first A-bomb—comes under the Air Research and Development Command's AF Ballistic Missile Division. How soon the ICBM will be operational and exactly what its capabilities are, the enemy would like to know. However, AFBMD's Commander, Major General Schriever, reports: "All the major mileposts in their development have been passed on schedule."

A ballistic missile is powered and guided only during the early part of its flight. Rocket motors will fall away as they are spent until only the warhead is left, which will then follow a ballistic path depending on its shape, size, density and direction of air flow and the force of gravity. In a sense it starts as an aircraft that consumes all of itself except the warhead, which it tosses at the target.

Wind velocities, air density and temperature at every level—from the launch site, hundreds of miles out into space, and back again to the target—must be computed into the guidance. Even the speed and direction of the earth's rotation

can kill even without a warhead.

The slim, supersonic Falcon with built-in homing guidance . . .

with relation to the missile must be fed into the computer if the bird is to be accurate. All in all, it will take some pretty sharp airmen with fantastic machines to man the missile site of the future.

To bridge the gap until the ICBMs are ready, ARDC and its contractors have readied the Snark, an air-breathing pilotless bomber that has all the range, accuracy and load-carrying capacity of the strategic ICBM. Launched from a zero-length launcher, the subsonic Snark is powered with turbojet engines and has a self-contained guidance system. It has already passed most of its tests and will soon be operational.

Only slightly behind the Snark in development is the Navaho, a rocket-boosted ramjet supersonic pilotless bomber that flies at very high altitudes. It will be equipped with a more efficient and more accurate guidance system than the Snark. Both these strategic birds are as deadly as the ICBM, though they are more vulnerable to interception.

Missiles are in the works to handle other assignments as well. The Rascal is a long-range air-to-surface pilotless bomber carried part way to the target by one of SAC's jet bombers. Once released, well outside detection and interception range, it is driven at high speeds by rocket motors to the heart of an enemy's war plants or shipping centers.

In the Intermediate Range Ballistic (Missile) field, Douglas Aircraft Company and its subcontractors are working on the Thor. It is a surface-to-surface strategic missile driven by the same rocket motor that will boost the ICBM toward the ionosphere. It is intended for use against both strategic and tactical targets up to 1500 miles from the launch site.

One of the most promising surface-to-air interceptor birds under development is the Bomare. Powered with ramjet engines, it will develop supersonic speed and is designed to seek out and destroy enemy aircraft at very great distances from the launch site.

The GAR-1 Falcon is a rocket-powered, supersonic, air-to-air missile that is part of ADC's F-102A and F-89H weapons system. Once the pilot makes his intercept and locks onto the target, he closes in. When the Falcon's sensitive radar nose tells it the range is right, it launches itself automatically. A self-contained guidance system causes it to home on the target at tremendous speeds and to follow any evasive action taken by the enemy. Even without a warhead it has brought down target drones in practice.

Men, Missiles and Maintenance

These are the missiles in being or projected for the immediate future. What kind of people will we need to handle them? The Honorable Donald A. Quarles answered that question this way at a press conference.

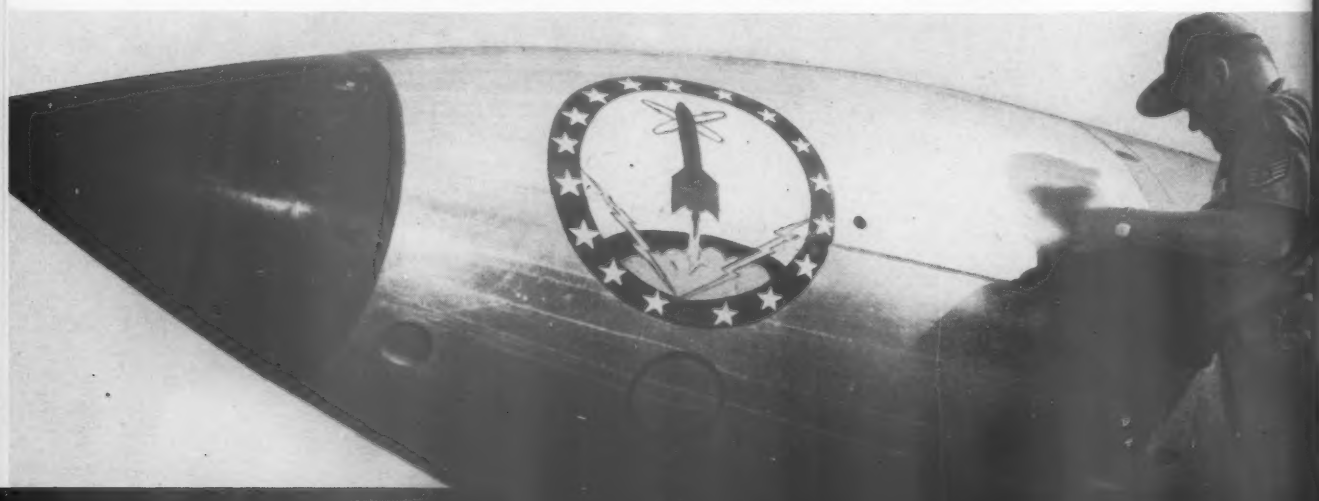
"You can take the average high school graduate recruited by the Air Force and train him to do the job," he said. "However, when you have to dig into the innards of the thing, you need experts—highly trained sergeants or contractor's representatives serving in the area as maintenance experts. You and I can drive an automobile, but if we want it serviced we take it to the experts who know the systems and have the practical experience needed to fix it."

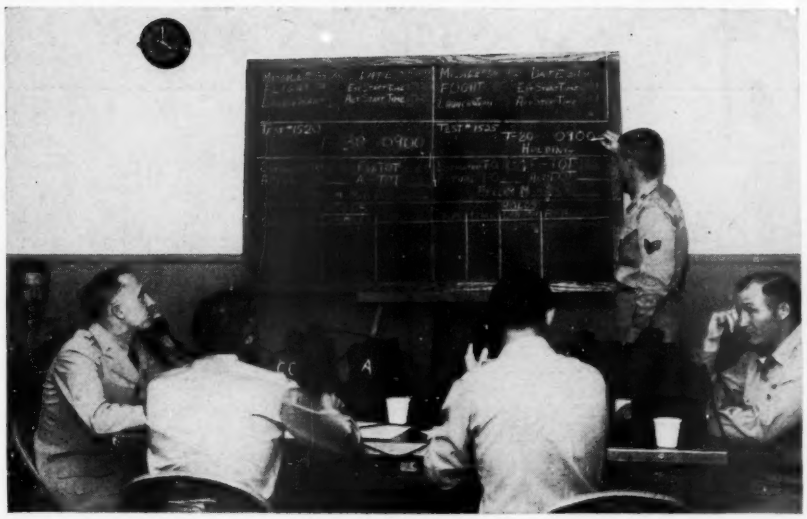
Guidance systems, for instance, are varied and complicated. Some are simple radar systems. Others, called infrared systems, are heat-seekers—controlled by the heat radiated from the target. There are star-tracking systems that automatically pick up successive pairs of stars and triangulate the missile's position. Then there are inertial systems that cannot be jammed. Their gyros maintain a stable platform for reference. Any course deflection is sensed by instruments that signal the control mechanism to make corrections.

These inertial systems are so delicate that the sealed units are built in hospital-like rooms under rigid temperature and humidity controls. Workmen enter through a vestibule where revolving brushes scrape mud and dirt from their shoes. They wear nylon smocks like doctors do, and huge exhaust fans literally vacuum lint and dust from their clothes. Filtered air in the room is kept under pressure to keep dust from sneaking in through opened doors. Airmen out in the boondocks at a missile site can't make repairs on equipment built under such conditions.

Even if the Air Force could afford

Packed in a gleaming warhead, the Sunday punch is fitted to a Matador.





Inside a fenced compound . . . a Missile Operations Center is set up in a classroom.

Blasting off for space to study reentry heat effects, the X-17 weighs six tons. Only a scorched nose cone and its information will survive.

to build such shops at each site and equip it with the special tools needed, airmen just don't have enough practical experience yet on missile maintenance. To train technicians would cost up to $20,000 per airman and take from two to three years of constant schooling. If airmen were trained to trouble-shoot and repair every one of the 300,000 parts in a missile, they'd still be in tech school at the end of their third hitch.

The Directorate of Maintenance Engineering at Headquarters, USAF, has found an answer. They develop missile maintenance policies and their philosophy is based on the replacement of plug-in type units. Sealed components—from a complete guidance system to a signal amplifier the size of a matchbox—are built as a unit to plug into the missile. When something goes haywire the airman "removes and replaces" the whole unit, and sends the old one back to the factory for repair.

This "black box concept," as it is called by most airmen, isn't popular in many circles. A lot of missile people resent it because they haven't understood why it's necessary. A missile must be ready to go instantly. That means continuous maintenance. A bird expected to do the job of a whole fleet of manned bombers can't be grounded because some tiny component is out for repair. It could make the difference in who wins a war.

So a man is trained first to isolate, remove and replace a faulty unit. After he's gained practical experience on the job working with more experienced airmen and technical representatives, he can be given advanced training. Meanwhile he is a valuable man, still learning, and soon becomes a seasoned maintenance expert of the type Mr. Quarles mentioned.

Airmen With a Future

Training often starts early in the development stage. A lot of airmen now getting their fundamental missile training will likely end up with one of the more advanced birds. Many of the key men selected to set up the new organizations will be graduates of Matador squadrons. They already have the experience and basic skills needed, so they'll need only a little specialized training.

The first airmen assigned to the new advanced missiles—Atlas, Titan, and Thor—will be trained by the manufacturers and contractors, who are already at work on their training programs. Operations people

get short but comprehensive courses on the whole bird. Maintenance men get longer, more intensive, specialized courses on the mechanical principles.

After this initial phase, airmen will be assigned to a unit where they'll train as a team while the bird is undergoing its final testing. Training has been timed so that qualified people will be ready to move out with the bird as soon as it becomes operational. Camp Cooke, just north of Los Angeles, is being activated to train teams for strategic missiles. Later, Air Training Command will set up tech schools; just as they have for the Matador.

Besides the few airmen already trained in missiles, the initial input will be NCOs from Aircraft Mechanics (43) and Electronic (31) career fields. Basic airmen will need fairly high scores in the Airman's Qualifying Examination to indicate that they have an aptitude for learning the skills. Backgrounds in high school and college mathematics and science will help a lot. Airmen with support AFSCs—supply, transportation, security, and installations—will be selected just as critically.

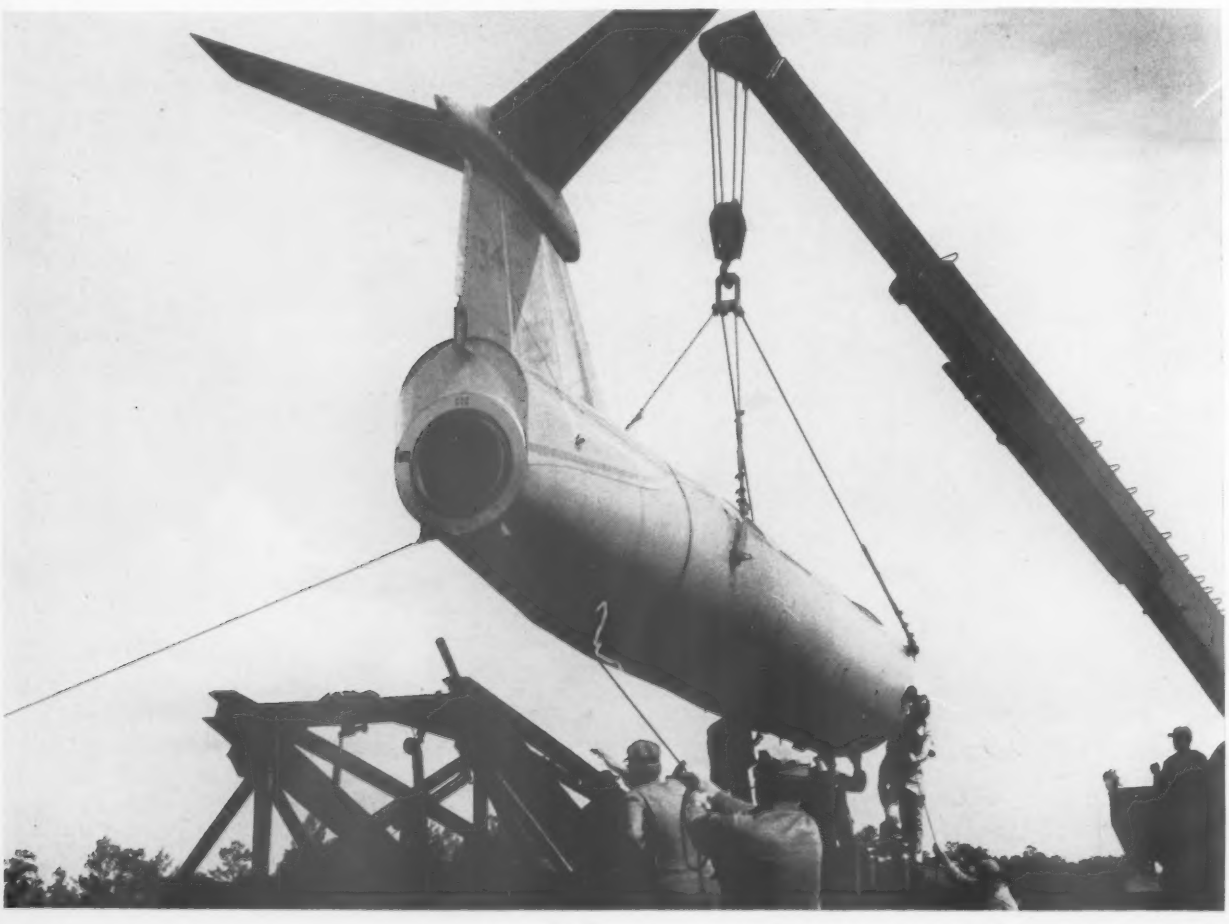
The same thing is generally true of officers. Many of them are probably now in research and development jobs, but they must have had some administrative and operational backgrounds. Electronic experience is mandatory for Control and Guidance officers and engineering is mandatory for Operations officers.

Classification manuals have been changed to include the necessary skills and to make sure that both airmen and officers once trained in missiles aren't shifted to other fields.

This is just the beginning of the missile era. Each service is developing guided missiles to fill its own requirements. This year the Air Force is spending 35 percent of its procurement money on missiles. By 1960 half our money will go for missiles. Air Force will operate strategic missiles designed to destroy the enemy's capability to make war and those that help provide tactical support of ground forces. It is responsible for long range interception of enemy air attacks, and of course, for the deadly air-to-air missiles that put the sting in our fighter-interceptor weapons systems.

The guided missile field is wide open and the sky's no limit. Science and industry are going full throttle in missile development. Now it is up to the airmen, the specialists in airpower, to deter war and keep the peace by being prepared to use them effectively.

A crane operator lowers a Matador as if it were the last crate of eggs on earth.



CITIZEN AIRMAN

by M/Sgt. Hal Bamford

The name of the gentleman who wrote the book on community relations escapes me for the moment, but he must certainly have borrowed a page or two from the personal history of M/Sgt. Robert F. Anderson.

As an Air Force recruiting representative in the civilian community of Mesa, Ariz., Sergeant Anderson has participated in more local civic projects than many men become involved in during a lifetime. In this desert city the name Robert F. Anderson has become almost a legend.

Bob began his community relations program in 1949 by serving as military counselor to the local high school. There followed a series of achievements which read like a chamber of commerce project list.

At various times he has served as a member of the Williams AFB-Mesa Public Relations Committee, as a member of the original committee to form a YMCA in the southwest Arizona city, and co-organizer of the Mesa Civil Air Patrol.

In January 1955 Sergeant Anderson joined the Kiwanis Club. Within six months he had been elected second vice president; later the same year, first vice president.

He has chaired dozens of important projects for the club. The crowning accomplishment came recently when he was installed as president. Guest speaker at the installation dinner was Gen. Edwin W. Rawlings, Commander, Air Materiel Command, himself a Kiwanian, who flew to Mesa from Wright-Patterson AFB, Ohio with Brig. Gen. Arno H. Luehman, then Commander, 3500th USAF Recruiting Wing, for the ceremony.

How does he do it all?

There was nothing in his early life in North Adams, Mass. to indicate a bent for community relations. Sergeant Anderson was graduated from Drury Academy. He attended Boston College and embarked on a military career in 1940 as a member of the Third Division. After 18 months' service with the Infantry he transferred to the Air Force and began a romance with the USAF that has endured to this day.

Fellow recruiters point a finger of credit toward Bob's family when questioned about his accomplishments. His wife, Grace, is president of the Kiwani-Anns (the club's auxiliary group) and a member of the local Parent-Teachers Association. In addition to her contribution to the family's community relations efforts, she handles phone calls from USAF recruiting prospects while her husband is out of town on trips.

The Andersons have two sons: Bob Junior, 13, and Bruce, 8. Junior is active in the CAP squadron founded by his dad.

Bob Anderson loves the Air Force and the feeling is mutual. He proves it every day with his contribution to recruiting and better community relations. In return, he has twice received the award for being the outstanding sales supervisor in eight western states, and earned for himself and the Air Force the respect of everyone in southwest Arizona.

Gen. Edwin W. Rawlings, AMC Commander, congratulates Bob Anderson on his installation as president of the Mesa Kiwanis Club.

The United Fund Campaign is one of the many drives Sergeant Anderson directs in southwest Arizona. He is shown accepting a $586 check, representing employees' contributions, from E. Hussey, department store manager.

FOUR OUT OF 10 AIR FORCE WIVES WHO COULDN'T GET HOSPITAL TREATMENT BEFORE ARE NOW COVERED BY

MEDICARE

by Dave Karten

One evening last January an airman and his wife in Columbus, Ohio, bundled up their three-year-old daughter in blankets and rushed her to the nearest downtown hospital emergency room.

The doctor checked her over carefully. "It's her heart," he explained. "In all probability, she'll require doctor's care and hospitalization for several months."

"Do everything you can for her, Doc," pleaded the airman. Then, when the initial shock over his child's condition had passed, he asked, "How much will it cost?"

"Perhaps several thousand dollars," the doctor replied, "but don't worry about it, Medicare will cover most of the bill."

Further examination showed the little girl had a rheumatic heart condition. The bill for prolonged hospitalization and doctor's care was considerably more than the airman and his wife could afford to pay. Under the provisions of Medicare, the government footed most of the bill.

THE NEW Armed Forces medical care program is now eight months old, and already it is proving its worth. Because it is still quite new, however, and many of its provisions are not completely understood, the Air Force wants its personnel and their dependents to learn all they can about the dependents' medical care program.

Many Air Force families haven't had to use it so far, but those who needed it, like the Ohio airman and his wife, have found it a real blessing in assured medical care as well as in monetary savings.

It didn't come quite soon enough, though, for the wife of a sergeant stationed in a college town far from an air base. In a letter to the Surgeon General she explained that they already owed some medical bills when she gave birth to her fourth child on December 1 last year—just six days before the Act went into effect.

"I'd like to know if the law could possibly be made retroactive in my case," she asked.

Regretfully, laws being laws, the answer had to be no.

It was to provide for just such needs of dependents that Congress passed the Dependents' Medical Care Act (Public Law 569, 84th Cong.) which became effective December 7, 1956.

"Medicare" is the popular term for the law. In cases of pregnancy, serious injuries, or illnesses requiring hospitalization, dependents of military personnel may go to a civilian doctor for treatment. In most cases the government pays all but a nominal charge for hospital care.

The law also opens up medical facilities of all services

Dependent's Medical Care provides complete maternity and obstetrical care for Air Force wives. Here, an airman and his wife consult their civilian doctor on problems of parenthood.

30. DIAGNOSES (Record important diagnoses using terminology of Standard Nomenclature. For secondary diagnosis, indicate if it is an infection or complication)		
31. 3-DIGIT CODE INT. STAT. CLASS.	1. Empyema, left staph 2. Septicemia, staph 3. Surgical Drainage Empyema & Thoracotomy	
32. SERVICES RENDERED (List each service rendered, including surgical operation (s) and the full amount of the separate charge for each.)		33. CHARGE
	S.P. Room 26 days @ $15.75	$ 409.50
34. CODE	Operating Room	36.75
	Anesthetic	35.00
	1st Urinalysis & CBC	8.75
	Special Lab	88.25
	X-Ray	120.00
	Oxygen	92.25
	Medication	158.75
	Blood Service Charge	12.00
	Irrigation & IV Trays	11.45
	Water Seal Drainage & Levine Tubing	7.00
(Attach additional sheets, as required)		
35. TOTAL CHARGES THIS STATEMENT $ 979.70 ✓	36. PAID BY OR DUE FROM PATIENT UNDER P. L. 569 $ 45.50 ✓	37. DUE UNDER P. L. 569 $

Hospital bill for services rendered an airman's three-year-old daughter suffering from empyema (accumulation of pus in the chest cavity) came to $979.70. Cost to airman for child's hospitalization and necessary surgery was $45.50.

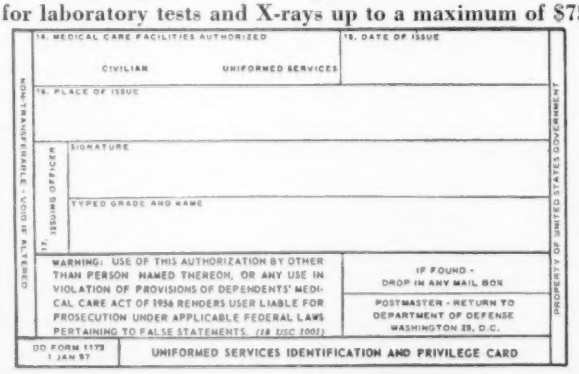
and the U. S. Public Health Service to Air Force dependents. Suppose your wife gets sick while visiting back home. She can go to the nearest military or Public Health Service hospital, or to any civilian hospital she selects. The bill you'd pay in any military hospital would be a straight $1.75 a day. The part of the bill you'd pay for her care in a civilian hospital would also come to $1.75 a day, except that the minimum charge would be $25. The government pays everything above that amount.

Two Things to Remember

There are two important things to remember about the new Medicare law:

First, you should know that Medicare does *not* provide for normal outpatient care by civilian doctors. If your wife wants the civilian doctor to look into Johnny's throat, or give Susan a penicillin shot, she—or you—will have to pay for it.

However, in certain cases involving bodily injuries, dependents may be treated on an outpatient basis. For cuts, bruises, sprains, fractures and the like, the doctor can treat the patient in his office. He can, in fact, use a hospital facility such as the cast room, without the patient actually being hospitalized. In such cases, the dependent pays only the first $15 of the doctor's bill; she will not be required to pay any hospitalization charges. In bodily injury cases the government will also pay for laboratory tests and X-rays up to a maximum of $75.


16. MEDICAL CARE FACILITIES AUTHORIZED
CIVILIAN
UNIFORMED SERVICES
18. DATE OF ISSUE
19. PLACE OF ISSUE
17. ISSUING OFFICER
SIGNATURE
TYPED GRADE AND NAME
WARNING: USE OF THIS AUTHORIZATION BY OTHER THAN PERSON NAMED THEREON, OR ANY USE IN VIOLATION OF PROVISIONS OF DEPENDENTS' MEDICAL CARE ACT OF 1956 RENDERS USER LIABLE FOR PROSECUTION UNDER APPLICABLE FEDERAL LAWS PERTAINING TO FALSE STATEMENTS. (18 USC 1001)
IF FOUND - DROP IN ANY MAIL BOX
POSTMASTER - RETURN TO DEPARTMENT OF DEFENSE WASHINGTON 25, D.C.
GENERAL MEDICAL AND DENTAL CARE FOR DEPENDENTS
PROPERTY OF UNITED STATES GOVERNMENT
DD FORM 1173
1 JAN 57
UNIFORMED SERVICES IDENTIFICATION AND PRIVILEGE CARD

This is the new DD Form 1173, "Uniformed Services Identification and Privilege Card," which is now being issued to all dependents 10 years of age and over.

For instance, if Johnny falls out of a tree and breaks his arm, or if your dependents are injured in an accident of some kind, the law authorizes care by a civilian doctor. You'll have to pay the first $15 of his bill; the government pays the rest.

Incidentally, the Medicare law doesn't authorize dental care—unless it should be performed while your dependent is hospitalized for something else and the doctor considers it necessary in effecting a cure.

The second thing to remember is that it does *not* replace the medical care which may be provided in an Air Force hospital; in fact it expands this kind of care by opening all military hospitals to dependents—provided the military hospitals have the doctors, the space, and the facilities to take care of them. Your family may still go to the base hospital for medical advice, for shots, and for treatment of minor or major illnesses, and there's no charge for outpatient care at military hospitals.

Since routine visits and treatments are excluded from the medical plan, it is expected that outpatient care at Air Force hospitals will continue at the pre-Medicare level and that the requirement for doctors in the Air Force will be as great as ever.

Medical care for most dependents overseas will be handled at military facilities. In localities where such care is not available, area commanders can authorize treatment from civilian sources as provided by the law.

New Era in Dependent Medical Care

The new Armed Forces medical bill has been referred to as a "new era" in dependent medical care. Medicare recognizes that care of Air Force dependents is equally as important as the care of Air Force personnel. It assures hospital care at all times to the wife and dependents of an airman for as long as he remains on active duty. "However," as one surgeon recently pointed out, "Medicare's biggest benefit is intangible. There are no statistics that can adequately express the peace of mind an airman serving overseas will have knowing that his wife and children in the States will get civilian and/or military medical care without delay in the event of any emergency."

When S/Sgt. and Mrs. Richard Jarvis' son broke his right leg, his parents took advantage of Medicare and rushed him to a physician of their choice in Mesa, Ariz.

Thousands of Air Force dependents have already been treated in the civilian hospital of their choice for a wide range of ailments, ranging from appendicitis to zona (shingles). Among these are many dependents who could not be cared for in military hospitals because of overcrowded conditions, lack of adequate medical staffs and facilities, or the distance they lived from an air base.

While the new law provides medical care for most illnesses requiring hospitalization, it is the obstetrical (OB) and maternity services, generally of shorter duration, which are claiming major attention. Considering the fact that 76,600 babies—one every seven minutes—were born in Air Force hospitals last year, this is not hard to understand.

Medicare's benefits were dramatically demonstrated to a sergeant and his wife at Barksdale AFB, La., last winter. Shortly after their daughter was born she was thought to have a cancerous tumor. Civilian specialists called in for consultation found it difficult to reach a precise diagnosis. They agreed, however, that an immediate operation was required. Surgery was performed at the base hospital and the actual condition, a defective kidney, was corrected.

Six days later the baby was home—but not for long. Although the operation had been successful, adhesions which developed during recovery caused a dangerous intestinal block. Doctors recommended emergency surgery.

Home for Christmas

Because the qualified surgeon was ill and hospital facilities were limited, the Barksdale base hospital was unable this time to handle the emergency. Instead the baby was taken to a civilian hospital in nearby Shreveport, where the operation was successfully performed. The little girl recovered in time for a family Christmas at home.

While they rejoiced over their child's recovery, the sergeant and his wife anticipated with misgivings the costs involved in civilian hospital care; surgery, anaesthesia, plasma, medications, and specialist services. Yet, under the Medicare formula, the airman paid only $25.

"Our daughter was admitted to the hospital immediately, and she had the best of care," said the sergeant's wife. "I would like every Air Force wife to know how much the new medical care plan has helped us."

During Medicare's first eight months, a heavy backlog of tonsil cases involving sons and daughters of Air Force personnel was rapidly whittled down by civilian physicians.

Typical was the case of a major getting ready to transfer to the Far East. While in the process of moving his family from Tampa to the West Coast, his six-year-old son suffered an attack of acute tonsilitis. His wife rushed the boy to MacDill AFB hospital where a throat specialist took one look at the enlarged tonsils and recommended they be removed as soon as possible.

Unfortunately, the MacDill base hospital had a backlog of priority emergency cases already confronting the understaffed surgical section and couldn't handle the case immediately. Since the child's tonsillectomy couldn't be put off any longer, the doctor advised civilian care under the Medicare program. A private physician successfully performed the operation. The boy is now fully recovered.

Application Is Simple

There's nothing complicated about applying for civilian medical care. There is no need to check with the base hospital. Your dependent needs to do only two things: first, make sure the doctor of your choice is participating in the program—almost all civilian doctors are—and second, show the doctor some kind of identification proving that she is eligible for Medicare. The doctor will make arrangements for hospitalization.

All dependents 10 years of age and over are now being issued the new Uniformed Services Identification and Privilege Card (DD Form 1173) which is similar to the military ID card. It will identify your dependents for Medicare as well as for base exchange, theater, and commissary privileges.

REDUCED TO ITS SIMPLEST TERMS, OPERATION OF THE MEDICARE PROGRAM WILL BE AS FOLLOWS:

1. The eligible dependent goes to the civilian doctor of her choice and finds out whether he is participating in the program.

2. Dependent shows proof of eligibility to receive medical care. This can be the Dependents Identification Card (DD Form 720), the Armed Forces Identification Card (DD Form 2AF), or other proof of eligibility acceptable to the physician or necessary authorities. The Uniformed Services Identification and Privilege Card (DD Form 1173) will soon replace the other ID cards.

3. If the dependent's visit to the doctor turns out to be a routine outpatient visit, she will be required to pay the usual doctor's fee.

4. If the dependent requires hospitalization, the doctor will provide the necessary medical care and send her to a hospital.

5. If she is treated at the doctor's office for bodily injuries such as cuts, wounds, fractures, bruises, or other bodily injuries which do not require hospitalization, she will also be covered by Medicare. Dependent will pay first $15 of doctor's bill.

6. Dependent fills out Form 1863 (Statement of Services Provided by Civilian Medical Sources), which is available from the doctor or hospital.

7. Dependent pays the hospital the sum of $25 or $1.75 a day, whichever is greater. If hospitalized 15 days or more, she will be paying $1.75 a day. If she stays in the hospital 14 days or less, she pays $25.

These are the things which Medicare covers:

★Hospitalization in semiprivate accommodations for a maximum of 365 days and physician's bills during hospitalization.

★Laboratory fees and X-rays during hospitalization. Certain other fees before and after hospitalization in cases of bodily injury and surgery.

★Complete obstetrical and maternity care, including care before and following delivery, and two medical examinations of the infant within 60 days of delivery. Because Medicare provides for complete maternity and obstetrical care, drugs and medicinals required for the treatment of patients receiving maternity and obstetrical care may be furnished at government expense. These items can be obtained by the patient from available stocks at a uniformed service pharmacy upon the prescription of the attending physician. If the civilian physician treating the patient provides these items, he will be entitled to reimbursement by the government.

★Acute medical and surgical conditions, including flare-ups of chronic diseases.

★Contagious diseases requiring hospitalization.

★Doctor's or surgeon's services for bodily injury or surgery both before and after hospitalization.

★Diagnostic tests and procedures, including laboratory and X-ray examinations incident to hospitalization, when ordered by an attending physician.

The Air Force recognizes that this list will not cover all the medical treatment which may be needed at one time or another by dependents of its personnel. For example, it does not authorize treatment for chronic diseases, nervous and mental disorders, optional medical and surgical procedures, domiciliary care (old-age, rest or nursing home), routine outpatient care and ambulance service. As Maj. Gen. Dan C. Ogle, USAF's Surgeon General, has pointed out:

"All individuals should bear in mind that the military services are in no position to solve all of the problems incident to the care of dependents. In the implementation of the Dependents' Medical Care Act we have the same restrictions that are apparent in other military operations in regard to requesting funds, justifying them, and being guided in our operations by what funds are furnished.

"We hope the new system will improve those situations which up to the present have been unsatisfactory."

Has it done that? The airman in Ohio, the sergeant in Louisiana, the major in Florida, and most of the million or so Air Force dependents who can take advantage of Medicare this year will write the answer to that question.

Perhaps the best answer for now was expressed by an Air Force dependent who has undergone one experience with the new law:

"Medicare may not be the final answer to the dependent medical care problem," she asserted, "but it's certainly a long step in the right direction."

Two visits to a physician are paid for under the Medicare program when performed within sixty days following delivery. Here an airman and his wife get the final *okay* from their family doctor on the second visit.

HERE ARE SOME QUESTIONS AND ANSWERS ON THE CIVILIAN CARE ASPECT OF THE MEDICAL CARE ACT

Q. Who is eligible for treatment at civilian hospitals?

A. Wives (or dependent husbands of WAF) and children of active duty service personnel serving for a period of over 30 days.

Q. Is there any age limit for children who may receive civilian medical treatment?

A. Yes. To qualify, a child must be under 21, unmarried, and the legitimate son or daughter (adopted and stepchildren included) of the service sponsor. If enrolled full-time at college, the child is eligible up to his 23d birthday if he receives over half his support from his sponsor. (If a child is mentally or physically handicapped he will remain eligible for the program past his 21st birthday, providing such handicap occurred before his 21st birthday, and he is dependent for over half his support).

Q. What about outpatient treatment at military installations?

A. This is still authorized for dependents, subject to space and staff limitations at such hospitals and clinics. There is no charge for this treatment.

Q. What medical care can eligible dependents get at civilian hospitals?

A. The services available to patients *requiring hospitalization* include:

Treatment of acute medical conditions, including *severe flare-ups* of chronic diseases;

Surgery performed during hospitalization;

Complete obstetrical and maternity care, including all necessary drugs and medicines;

Hospitalization for contagious diseases;

Services specified by physician or surgeon before and after hospitalization for bodily injury or surgery;

Treatment in emergencies constituting a threat to the life, health, or well-being of a patient, including *acute* emotional disorders;

Diagnostic tests and procedures, including X-ray examination while hospitalized; and

Such dental care performed in a hospital as is necessary for the successful medical or surgical treatment of the patient.

Q. Are there specific types of treatment from civilian sources that are not authorized?

A. Yes. The program excludes chronic diseases, nervous and mental disorders, medical and surgical treatment deemed unnecessary, domiciliary care (old-age, rest or nursing homes), treatment or procedures normally considered outpatient in nature (except bodily injuries), and ambulance service. Remember that an *acute* flare-up of a chronic disease or an *acute* emotional disorder can fall under the category of authorized care.

Q. How much does a dependent pay for medical care?

A. In a civilian hospital the patient pays the first $25 of the hospital bill or, if hospitalized over 14 days, the patient will pay at the rate of $1.75 per day for each day hospitalized. There will be additional charges to be paid by the patient if a private hospital room is occupied or if special-duty nursing care is required.

All outpatient dependent medical care from civilian sources will be paid by the patient except as follows:

For treatment of bodily injuries the patient will pay the first $15 of the bill;

For maternity or infant care where the child is delivered but the mother is not hospitalized, the patient will pay the doctor the first $15 of the bill; and

For tests and procedures in connection with the treatment of an injury, or prior to admission to a hospital for injury or surgery, the government's liability is limited to $75. If hospitalization results, the government's liability for post-hospital care in the treatment of the same injury or surgical procedure is $50.

Q. What will be the hospitalization cost at military facilities?

A. The cost at military hospitals will be $1.75 a day, with no set minimum charge.

Q. Does that mean that if my wife is confined to a civilian hospital for three days, she'd have to pay the minimum of $25, while at the military hospital the cost would come to $5.75 for the same period of time?

A. Right.

Q. Is there any restriction in going to either a civilian or military physician in localities where both are available to dependents?

A. No. The program gives all eligible dependents free choice in selecting either a civilian or uniformed services doctor for authorized treatment.

Q. I hear the term "uniformed services" used in connection with the Dependents' Medical Care Act. Why don't they say the Armed Forces or military services when referring to dependents covered by law?

A. Because in addition to the Armed Forces and the Coast Guard the law also includes dependents of the commissioned corps of both the Public Health Service and the Coast and Geodetic Survey. Hence the inclusive terms "uniformed services" and "uniformed facilities." This means all USAF dependents may now use the clinics and hospitals of the Public Health Service, as well as those of the military services.

Q. How long can a patient remain in a hospital?

A. Hospitalization in semiprivate accommodations up to 365 days is allowed for any one admission.

Q. Are dependents of retired personnel eligible for the civilian care portion of the program?

A. No. Only the wives (or dependent husbands) and children of active duty personnel are eligible.

Q. What identification does my dependent need in applying for medical care?

A. The Dependent's Identification Card (DD Form 720), the Armed Forces Identification Card (DD Form 2AF), or other proof of eligibility acceptable to the physician or necessary authorities, will be used as an interim means of identification for civilian or service medical care for dependents until DD Form 1173 becomes the primary means of

identification. That card is called the Uniformed Services Identification and Privilege Card.

Q. Can other relatives or close friends use the card to receive medical care?

A. Absolutely not. Only those dependents mentioned can receive the medical care benefits. Any abuse, fraud, or deceit by the patient or sponsor will be prosecuted by the government and punished by fine or imprisonment.

Q. When does my dependent's eligibility for civilian medical care cease?

A. The government's responsibility for providing civilian medical care ends when the serviceman dies, retires, or is released from active duty. For the serviceman who dies on active duty, or who dies while in a retired status, or for the serviceman who is retired from the service, his dependents or his surviving dependents will continue to be eligible for medical care in facilities of the uniformed services on a space-available basis.

Q. Is civilian dental care authorized for dependents?

A. No. The only exception is civilian dental care provided as a necessary adjunct to medical or surgical treatment of a hospitalized patient.

Q. Will Medicare pay for the services performed by an osteopath?

A. If an osteopath "is legally qualified to prepare and administer all drugs and to perform all surgical prodecures," he can come under the Medicare program in providing authorized treatment to a dependent in the State where he is licensed to practice.

Q. How does my dependent obtain benefits under the dependents' civilian medical care program?

A. When authorized dependents' civilian medical care is desired, the patient or sponsor selects the civilian doctor of his choice, after making certain that the doctor is participating in this program.

The patient will be required by the doctor or the hospital to furnish proof of eligibility.

Q. Should I continue to carry my medical insurance coverage?

A. This is a personal decision which you must make. There is little advantage in retaining this coverage for a wife or child if the serviceman will remain in the service indefinitely. For the serviceman who is soon to leave the service or who has dependents other than a wife or children it may be advantageous for him to retain his civilian medical insurance coverage. Check with your civilian agent.

Q. Will dependents' medical care available in service medical facilities be decreased now that we have this law?

A. No. The present capabilities of service medical facilities to provide dependents' medical care will be maintained. It is not intended that the Dependents' Medical Care Act should relieve the Air Force medical service of responsibility for the care of dependents in military medical facilities.

Q. Will the government pay for ambulance service to and from civilian hospitals?

A. No. This service, if used, is the financial responsibility of the individual.

Q. Can my dependents get civilian medical care overseas?

A. Yes. However, your dependents will get medical care in uniformed services medical facilities if such facilities are available. If the services' medical facilities are unable to provide the care, you may be able to use civilian medical facilities under applicable local regulations, but first you should get information from the nearest service facility.

Q. If I am stationed overseas without my dependents, can they get civilian medical care anywhere in the States?

A. Yes. Such dependents may be hospitalized in any approved hospital in the United States.

Q. Will the government pay for any type of braces, aids, supports, etc., furnished to dependents?

A. No. The purchase of artificial limbs, braces, hearing aids, orthopedic footwear or spectacles, is the financial responsibility of the individual.

Q. Must I get permission, or some type of statement, from the base hospital before I can apply for civilian Medicare?

A. No.

Q. If the civilian physician I select informs me his charge will be greater than what the government will pay him, can I pay the difference?

A. Payments of this type, "on the side," are not authorized.

Q. If I buy medicine for my wife or child from a civilian doctor's prescription, will the government reimburse me for it?

A. No. Payment for drugs or medicines furnished outside the hospital are not provided for under the law, except in maternity cases.

Q. Is my dependent mother eligible for medical care under this new bill?

A. Dependent parents or parents-in-law are eligible for medical care at uniformed services medical facilities provided they are dependent on the service member for over half their support and are residing in a household provided or maintained by the sponsor.

Q. Where can I obtain more information about dependent medical care?

A. Information may be obtained from the nearest medical facility of the Air Force, Army, Navy, or Public Health Service. In areas where a dependent is not near a service medical facility, information may be obtained from local physicians, hospitals, or local Blue Cross or Mutual of Omaha insurance representatives who are participating in the dependent medical care program as contractors for processing the hospital bills. You should provide your dependents with a copy of AFP 160-16-3, titled "Medical Care for Service Dependents," which may be obtained through your unit commander.

AIRMAN'S WORLD

GOLDEN ANNIVERSARY STAMP

A three-cent stamp commemorating the Air Force's 50th Anniversary will be issued August 1. Designed by Hungarian-born Alexander Nagy, Jr., chief of ARDC's visual presentation branch, it features a B-52 Stratofort in flight, with the USAF shield superimposed, and a flight of three supersonic F-104s in the background. Nagy's design, judged winner in the nationwide U.S. Air Force stamp design contest, earned him a special plaque presented by Air Force Chief of Staff Gen. Thomas D. White. Nagy is a member of the National Society of Art Directors.

A LOG IS MAN'S BEST FRIEND

If you keep it up and take it with you whenever you travel, your faithful log will stand by you when you need it most—at income tax time.

With special emphasis on logging travel expenses, the USAF Judge Advocate General's Legal Assistance Office has come up with a clear-cut explanation of reporting travel pay and deducting travel expenses, a relatively new tax headache for servicemen. The exact method of making these entries has been a boon to aspirin markets in the past. Actually, it's quite simple.

First, the total amount received for mileage and per diem (PCS and/or TDY) *must* be reported as part of your gross income. Amounts received for dependent transportation *are not* reported.

If you use the long form (1040), certain travel expenses *may* be deducted, even if you do not itemize other deductions. If you use the short form (1040A), travel expenses *may not* be deducted. Legally your log book constitutes an "original entry record," providing it has been kept in ink in a permanently bound book.

You *can* deduct cost of: transportation fares or automobile expenses, meals and lodging, porters' tips and baggage charges, similar expenses necessary to travel and one-day transportation.

You *cannot* deduct cost of: your dependents travel (neither do you report money received for them), entertainment, personal expenses (such as laundry), side trips, deviations and delays for personal reasons or convenience, meals in one-day transportation expenses and cost of daily transportation between home and duty station.

All travel expenses may be deducted on line 5, page 1, Form 1040. Enter the gross income from travel pay, less expenses, and proceed to the next item. A statement showing number of trips, place and duration of each, total amount of per diem and mileage received, and actual expenses detailed under headings transportation, lodging, meals and sundry, must be attached to Form 1040.

End the statement with, "Taxpayer has in his possession available vouchers, receipts and original entry records for all travel expenses."

Do not send the log, vouchers or receipts with your tax return—they should be kept with your file copy of Form 1040. Your Legal Assistance Officer will aid you with details.

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SHOULDER PATCHES ON WAY OUT

AFM 35-10, the airman's guide for wearing the uniform, has been revised to prohibit the wearing of organizational shoulder emblems. The new change also discourages wearing overseas bars, and certain optional badges (combat infantryman, medical badge, etc.). These new changes are a continuation of Air Force policy to make the blue uniform plain, yet distinctive. In describing the program to eliminate "gaudiness," Air Force Planners have explained that "We're all on one team. Wearing the same uniform identifies us, not as members of squadrons or units, but as part of the Air Force team. The Air Force is our business—the distinctive blue uniform, our business suit."

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DOUBLE CHECK

A large group of Air Force personnel, the Veterans Administration advises, are among the 20,000 service members with permanent government life insurance policies who executed a waiver of premium and have not terminated it.

Many individuals who feel they have taken appropriate action should double check their files to be certain of their status. A number of permanent plan holders are under the mistaken impression waivers will be cancelled without any action on their part since they are already paying premiums. However, direct action by the individual is required to cancel the waiver, regardless of the method of payment.

Each individual concerned should make a personal check at the earliest opportunity. Should action be necessary on your part, Hq USAF Message AFPMP 180636, April 26, 1957, spells out proper procedures.

POE TIME SHORTENED

A recent analysis of the new program for airlifting unaccompanied Air Force members overseas indicates that many benefits accrue to the USAF through this expanded use of air transportation, TIG Brief reports. About 80,000 nonproductive man-days were eliminated by airlifting 5,523 Air Force members to new oversea assignments during the initial three-month period. At the same time, the Air Force saved over $1,300,000 in pay, allowances, and transportation costs. Other intangible benefits also were realized, such as better morale, more comfortable travel accommodations, and elimination of in-transit personnel processing.

While initial operations generally were successful, some weaknesses in the system came to light which may be remedied in the future. During the first three months of operations, 3 percent of the travelers reported to the PAE early, 2 percent were late, and 6.6 percent arrived without plane reservations. It is realized that many of those without reservations had received incorrect reporting instructions because of the change of air channels from McGuire AFB, N.J., to the Charleston, S.C., APOE. However, greater emphasis should be placed on the indoctrination of reassigned personnel at home station prior to the move to insure that they realize the importance of reaching the APOE on time.

The base transportation officer is responsible for requesting from the appropriate USAF Logistic Terminal essential air reservation data as soon as eligible local personnel are reassigned overseas. Reservation data received from the logistic terminal will be entered on the individual's orders and he will be told of APOE arrival time. The commander should assure that transportation and personnel officers are familiar with pertinent instructions contained in AFPMP messages 157996, dated 13 September 1956, and 159664, dated 26 September 1956.

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AIR EVAC POLICY DEFINED

An all-major-commands message (AFMTP 188748, 29 May '57) has gone to the field clarifying air evacuation of dependents being treated under provisions of the Medicare regulation (AFR 160-41). Dependents in a patient status will not be returned from overseas except in very rare instances with special approval. However, certain dependents of active duty members, eligible under the conditions of paragraphs 24, 27a and 29c of the Medicare regulation, may be airlifted via scheduled air evacuation flights, military or commercial air, or otherwise transported at government expense to the facilities best equipped to treat their specific case without prior approval from Hq. USAF. The regulation and qualifying message should be on file in your orderly room.

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ACADEMY STAFF AND FACULTY POSITIONS

Officers desiring staff or faculty positions at the Air Force Academy should make application in accordance with chapter 15, part 2, AFM 35-11, at least 18 months prior to desired date of assignment.

The Superintendent anticipates a need for additional officers as the Air Force Cadet Wing increases in size and the Academy moves from Lowry AFB to its permanent site near Colorado Springs.

Faculty vacancies will exist in the following fields: English, History, French, Spanish, Russian, Psychology, Economics, Government, International Relations, Military History, Law, Philosophy, Electrical Engineering, Chemistry, Mechanics, Geography, Mathematics, Physics, Thermodynamics, Aerodynamics, Graphics, and Design Appreciation.

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OVERSEAS MOVEMENT OF DEPENDENTS

A recent Defense Department policy change states that eligible service members who elect to have dependents accompany or join them overseas must complete the prescribed "accompanied" tour for the area concerned. An Air Force member whose separation date falls before the end of the prescribed "accompanied" tour cannot be authorized to move his dependents overseas unless he extends his term of service to cover the period of the normal tour.

Personnel who do not extend their enlistments to complete an "accompanied" overseas tour but have dependents join them in a "tourist" status will not be authorized an overseas station allowance. They will serve an overseas tour as prescribed in AFM 35-11.

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CREDIT UNIONS

Distribution of the new AFR 34-54, "Credit Unions," is expected to boost the credit union program at USAF installations.

Although they are private organizations not under Air Force control, the new Regulation stresses the fact that USAF would like to see such unions organized at more of its bases. Membership privileges are available to all personnel and their families, without regard to grade or rank, military or civilian.

Credit unions are organized like a club, one vote for each member and officers elected from the membership. The organization is formed for the benefit of a particular group, with membership open to anyone within the group.

Basic goal is to combat usurious rates while making loans to each other within the framework of the union. Policies, loans and business details are all acted upon by elected boards from within the membership.

Governing policies, contained in the Federal Credit Union Act and personnel regulations, are spelled out in the new directive. Attachments list addresses of Federal and State offices where assistance in organizing and operating such an organization can be obtained. Special problems in organizing credit unions overseas are also outlined.

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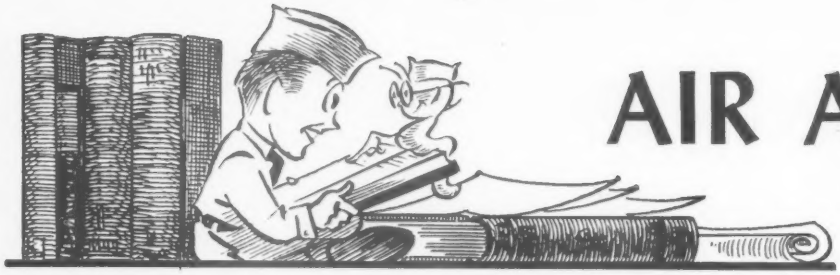
OVERSEAS TAX COLLECTIONS

A new branch of the Internal Revenue Service (IRS), called the International Operations Division, has recently been established to serve military and civilian personnel in foreign countries. The new office will investigate delinquent tax accounts and provide assistance in solving tax problems.

Because military personnel overseas frequently move from one place to another, tax notices often fail to reach them. In other cases, tax payments may not be properly recorded.

IRS representatives will communicate with commanders at military installations overseas on the problem of military personnel who owe delinquent taxes. Tax collectors will then make appropriate arrangements with individuals for liquidation of delinquent taxes.

Internal Revenue Service Form No. 2159 may be used for taxes which cannot be paid in full without working a financial hardship on the individual involved. This form, when signed by the serviceman, authorizes liquidation of the tax due by means of payroll allotment plan. Finance officers are authorized to make such allotments when these signed forms are submitted by servicemen.



AIR AGE LIBRARY

by Capt. James F. Sunderman

The role of air forces in the Korean action is perhaps the most misunderstood combat aspect of that bitter conflict. Except for the air battles high above MIG-Alley, there was little glamour surrounding the airman's job. Yet, for over two years, 24 hours round-the-clock, combat air forces alone carried the attack to the enemy—bombing and strafing troops, demolishing supply depots, ripping up road and rail communications from the front lines to the Yalu River. The war from the air forced the Red armies underground, reduced their supplies to a trickle and prevented them from launching a major offensive while at the same time insuring our own surface forces and their long vulnerable lines of supply freedom from air attack.

A picture of the whole air war is now brought into clear focus in the Air Force's first commercially published book on Korea. ***Airpower: The Decisive Force in Korea***, edited by Col. James T. Stewart, USAF (D. Van Nostrand, $6.50) is a collection of some of the best writings about the Korean air war that appeared in the *Air University Quarterly Review* from 1951 through 1954.

These articles and combat strike studies, prepared on the spot by the men who directed and fought the air war, are divided into five sections: a survey of the war by Gen. O. P. Weyland, FEAF wartime commander, and a series of authentic, interesting and informative pieces dealing with the major air strikes, tactical phases and the varied elements that made up our combat airpower. They include: *control of the air* (air-to-air, air-to-ground action); *applied airpower* (fighter bomber, light and medium bomber action); *supporting combat services* (air reconnaissance, maintenance, air field construction, air rescue, and troop carrier operations), and a wrap-up, *looking back and ahead*.

Each part is prefaced by the editor's remarks that tailor a background framework and perspective for understanding and interpretation. Colonel Stewart analyzes the military objectives of this limited war and shows how air forces were used to achieve these objectives. He discusses the effects of airpower, the cost of the air war, and lessons learned that may apply to the future.

This is one of the significant airpower studies of recent years. Profusely illustrated with combat air photography, it is a volume all airmen should read and make a part of their library.

★ ★ ★

Almost as far back as recorded history goes, men have dreamed of sailing the sky in great ships as they boldly sailed the seas. Today this dream has come true; the "skies are filled with commerce," as Tennyson once envisioned. But it has not come without a price in lives and shattered hopes. One of the dramatic, tragic chapters in the history of aviation is that of the great dirigibles—the magnificent lighter-than-air sky ships of the early 20th Century. The story of the giant gasbags is recorded by John Toland in ***Ships In The Sky*** (Henry Holt, $4.95) and features eight major airship disasters recreated in spell-binding, minute-by-minute detail from painstaking research and interviews with survivors and eye-witnesses.

Experimentation in airship flying began during the Civil War. In 1865 Dr. Solomon Andrews sailed a primitive type over New York City. Around the beginning of the 20th Century the dirigible began to emerge as a commercial and military vehicle, due mostly to Germany's ingenious Count Ferdinand von Zeppelin. In the 37 years from his first flight to the explosion of the "Hindenburg" at Lakehurst, N.J., on May 6, 1937, mighty dirigibles probed into the skies of almost every country on earth, spanning oceans and continents and setting incredible records.

But one by one they crashed, battered into the ground by storms or eliminated in a flash of exploding hydrogen. Three great tragedies, involving the dirigibles "Shenandoah," "Akron" and "Macon," stunned America, while in Europe an aura of mystery was added by the complete disappearance without a trace of the giants "Dixmude," "Italia," and the German L-50. By 1937, too much misfortune had plagued the dirigible, and the fiery end of the "Hindenburg" marked the end of an era. Out of the ashes of the dirigibles evolved the pudgy "blimps" which served many useful purposes during World War II on anti-submarine patrol and convoy duty.

Toland writes in vivid, dramatic style that not only holds your interest but makes this book hard to put down.

★ ★ ★

Paper-Back Air Books of Popular and Professional Interest

The First And The Last by former Luftwaffe general, Adolph Galland, (Ballantine, 50¢)—the story of the rise and fall of the German Air Force.

Forbidden Area by Pat Frank (Bantam, 35¢)—a novel of thrilling suspense dealing with a planned Russian attack on the U.S.

★ ★ ★

All books reviewed in this column should be available in the "Airman's Bookshelf" at your Base Exchange. If not, ask your BX officer about them. You can buy the hard-back books at about a 25 per cent discount from the regular list price quoted here. Paperbacks carry no discount.

AIRMEN IN THE NEWS

MOST MERITORIOUS →

For his flying skill and mastery of the exacting climb technique needed to coax the most out of the extremely short fuel supply of the Bell X-2 research aircraft, jet ace Capt. Ivan C. Kincheloe, Jr. was awarded the 1956 Mackay Trophy. Now an Experimental Flight Test Officer at ARDC's Flight Test Center, Edwards AFB, Calif., Captain Kincheloe last September "pressed well beyond the highest altitude ever before achieved in a piloted airplane," the citation said. Gen. Nathan F. Twining, former Air Force Chief of Staff, made the presentation.

FAMILY PLAN

T/Sgt. Clyde Burgess and his wife, Phyllis, are "sending" patients at the 7373rd USAF Hospital, Chateauroux AB, France.

Complete equipment for broadcasting radio shows within the confines of the hospital was recently installed, and then collected dust for lack of an announcer. The Burgesses, both of whom had previous radio experience, decided that both the patients' morale and their unused talents needed a shot in the arm.

They volunteered to devote three hours daily off-duty time to the radio project. Result: three professionally presented record shows daily with scripts and patter by the Burgess team.

The station library boasts 2800 records, supplemented by dozens from Burgess' personal collection, and a professional cataloging job by the distaff member of the team which allows filling a request within 30 seconds.

It's duty above and beyond the call and in the words of Lt. Col. G. L. Hekhuis, Hospital Commander, "They've proven to be one of the greatest morale factors this hospital has ever had."

INVENTION, ANYONE?

Webb AFB, Tex., jet engine change team presently holds the world's record time, slightly over six minutes, for accomplishing the feat.

And it seems reasonable to assume that a good portion of the credit for their speed may well rest with S/Sgt. Weldon M. Barton, even though he isn't a member of the team.

Barton, a member of the 3560th Field Maintenance Sq. at Webb, has devised 11 inventions and improvisations which assist in speeding engine changes and repairs. All are being utilized in the Webb engine shop.

IN A HUMANITARIAN INTEREST

The 1956 Cheney Award for an act of valor, extreme fortitude or self-sacrifice in a humanitarian interest performed during the preceding year, has been presented to M/Sgt. Leonard J. Bachetti.

The citation read, "For his valor and extreme fortitude in rescuing survivors from the flaming wreckage of a C-124 aircraft which crashed at Charleston AFB, S. C., on October 3, 1956. Being the first to reach the scene of the accident, M/Sgt. Bachetti unhesitatingly climbed into the burning aircraft and guided two dazed airmen to safety. Despite intense heat and danger of explosion, he twice reentered the aircraft and rescued two other airmen who were helplessly trapped in the flaming wreckage. The heroism and selfless humanitarianism displayed by M/Sgt. Bachetti reflect the highest credit upon himself and the United States Air Force."

Additionally Bachetti recently received the Soldier's Medal in recognition of his heroic act.

BUDDY, TAKE A BOW

Here's a new twist. In a recent ceremony at Landstuhl AB, Germany, T/Sgt. Blaze Lazzara stopped a presentation ceremony cold with his generosity.

Lazzara was presented the Commendation Ribbon for his work in locating nearly three miles of buried communications cable at Spangdahlem AB, Germany, late last fall.

After Col. Joseph C. Dillow, 2nd Comm. Gp. Commander, had pinned the ribbon on Sergeant Lazzara, the non-com startled the assemblage by calling forward A/2C Robert Gridder and A/2C David Batts and explaining to the awarding officer that they were the two men most responsible for his obtaining the honor.

What's in a Name?

SPECIFIC TERMS are traditionally used to identify members of various military organizations. For instance, *soldier* is commonly used to identify anyone in the Army, regardless of grade, and *marine* is descriptive of any member of that corps.

Airman, as used in the title of this journal, is defined to mean any member of the Air Force regardless of grade. The mission of THE AIRMAN is Air Force wide. It is not limited to any one grade or group.

Basically, THE AIRMAN's mission is to provide information to airmen, that is, all members of the Air Force, on USAF activities. As a result, it is hoped that airmen will gain a better appreciation of their roles in the Air Force, its mission and responsibilities, its traditions, career opportunities, new equipment and training programs, personnel policies, educational opportunities and the achievements of its members.

THE AIRMAN will need the assistance of all personnel to fulfill its mission. It needs comments, suggestions and feature material from you. It is your journal. Send your comments, recommendations, and questions to us.

NEW?

THE AIRMAN will look new to many members of the Air Force because it has been more than ten years since you had an official journal. Actually, it is not new, but is rather a continuation of a journal begun nearly 40 years ago.

The first Air Force journal began on September 21, 1918. It was a four page mimeographed publication called *The Air Service Weekly News Letter*. Its mission was to provide information to all members of the Air Service, the official designation of the Army's aviation arm.

The journal continued through the years on an inconsistent basis and one year, not at all. The name changed several times to reflect the organizational position of military aviation. When the Air Service became a corps of the Army, the journal became the *Air Corps Weekly News Letter*. Later, it was called *The Air Forces News Letter* and, in December 1942, just *Air Force*. When the Air Force Association began publishing its magazine, *Air Force*, in 1946, the title changed to *AAF Review*.

The great demobilization after World War II affected all activities of the Air Force and the *AAF Review* was no exception. In September 1946, 28 years after the birth of the original journal, *AAF Review* ceased publication.

Now in 1957, on the Golden Anniversary of the Air Force, a journal again enters our inventory. It bears little resemblance to the first one but its basic mission is the same.

IN THIS ISSUE

Bob McCall

Front Cover—Nationally known artist Bob McCall's painting was selected for the first cover because it depicts three essential elements of the Air Force—top quality equipment, competent technicians, and highly trained personnel. A member of the Society of Illustrators and a World War II Air Force bombardier, McCall's idea for the painting came while visiting SAC's Sidi Slimane AB, Morocco. "I had the opportunity of becoming acquainted with the pilots and airmen who fly and service this aircraft. I was impressed with the degree of affection and pride shown by them, and the technical skill and know-how they displayed." His sketches were made later at an Eglin AFB, Fla., firepower demonstration. The original hangs in the Pentagon. Along with hundreds of other paintings by the Society, it will be placed in the permanent buildings of the Air Force Academy.

Two Stories in This Issue were written by aces of both World Wars whose combined careers span 40 years of the Air Force's first half century.

At 66, durable Capt. Eddie Rickenbacker is still an airman's airman who flies endless miles along his Eastern Air Lines system; gets up before dawn to study reports of planes, weather, etc.; and respects a good mechanic as another man might respect a concert pianist. Since Sept. 25, 1918 when he took off before breakfast on his first day of command and attacked single-handed seven German planes, shooting down two—a feat which won him the Congressional Medal of Honor—Captain Eddie has seen death more closely and more often than many men in this generation. He has learned to look the Old Fellow right in the eye, as one man to another, returning his steady gaze. For a firsthand account of one of Rickenbacker's close shaves see page 8.

Like Rickenbacker, Col. Francis S. Gabreski, America's top living ace (40 enemy planes to his credit) began his career in propeller-driven aircraft; found after World War II that transition to jets was rapidly taking place. When we asked Colonel Gabreski what incident in his experience stood out most, he replied, "All of us unquestionably wish that we'd had jet aircraft instead of reciprocating fighters during World War II. But there was one odd instance in which this was particularly vivid in my personal flying experience. While strafing Heinkels at an airdrome near Cologne, I misjudged my clearance on a low pass, and my propeller caught a jagged rise in the terrain. I crashlanded and was later taken prisoner by the Germans. What a difference it would have made if a small jet intake had replaced that clumsy prop!" Colonel Gabreski's story is on page 12.

Back Cover—These paintings, made into posters by the Office of Armed Forces Information and Education to illustrate the Code of Conduct, were created by Society of Illustrator members and selected by the Defense Advisory Committee on Prisoners of War. They are by (1) Harold von Schmidt, renowned painter of American historical subjects; (2) Malcolm Murley, Paris-born magazine illustrator; (3) Harvey Kidder, and (4) Tom Lowell, contributors to leading national magazines; (5) Warren King, Freedoms Foundation Gold Medal winner for editorial cartooning in 1952, and (6) Edwin Georgi, USAF World War I veteran. These posters are being distributed to each squadron for permanent display.

HIGH FLIGHT

Oh! I have slipped the surly bonds of earth

And danced the skies on laughter-silvered wings;

Sunward I've climbed, and joined the tumbling mirth

Of sun-split clouds—and done a hundred things

You have not dreamed of—wheeled and soared and swung

High in the sunlit silence. Hov'ring there

I've chased the shouting wind along, and flung

My eager craft through footless halls of air.

Up, up the long, delirious, burning blue

I've topped the wind-swept heights with easy grace

Where never lark, nor even eagle flew—

And, while with silent lifting mind I've trod

The high untrespassed sanctity of space

Put out my hand and touched the face of God.

Pilot Officer John G. Magee, Jr.

CODE OF CONDUCT

I

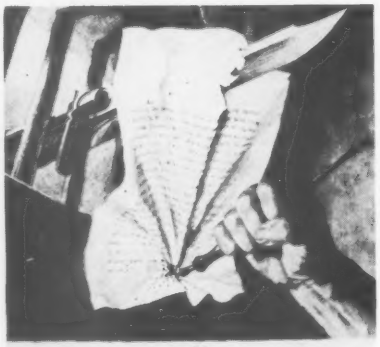
I am an American fighting man. I serve in the forces which guard my country and our way of life. I am prepared to give my life in their defense.

IV

If I become a prisoner of war, I will keep faith with my fellow prisoners. I will give no information nor take part in any action which might be harmful to my comrades. If I am senior, I will take command. If not, I will obey the lawful orders of those appointed over me and will back them up in every way.

II

I will never surrender of my own free will. If in command, I will never surrender my men while they still have the means to resist.



V

When questioned, should I become a prisoner of war, I am bound to give only name, rank, service number and date of birth. I will evade answering further questions to the utmost of my ability. I will make no oral or written statements disloyal to my country and its allies or harmful to their cause.

III

If I am captured I will continue to resist by all means available. I will make every effort to escape and aid others to escape. I will accept neither parole nor special favors from the enemy.

VI

I will never forget that I am an American fighting man, responsible for my actions, and dedicated to the principles which made my country free. I will trust in my God and in the United States of America.

The Code of Conduct, prescribed by the President in 1955, embodies the high standards of devotion to country that American servicemen have held since 1775.

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